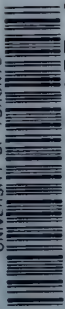


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BRITISH SCHOOL OF ARCHAEOLOGY IN EGYPT
AND EGYPTIAN RESEARCH ACCOUNT
EIGHTEENTH YEAR, 1912

THE LABYRINTH GERZEH AND MAZGHUNEH

BY

W. M. FLINDERS PETRIE

HON. D.C.L., LL.D., LITT.D., PH.D.
F.R.S., F.B.A., HON. F.S.A. (Scot.), A.R.I.B.A.
MEMBER OF THE ROYAL IRISH ACADEMY
MEMBER OF THE IMPERIAL GERMAN ARCHAEOLOGICAL INSTITUTE
CORRESPONDING MEMBER OF THE SOCIETY OF ANTHROPOLOGY, BERLIN
MEMBER OF THE ITALIAN SOCIETY OF ANTHROPOLOGY
MEMBER OF THE ROMAN SOCIETY OF ANTHROPOLOGY
MEMBER OF THE SOCIETY OF NORTHERN ANTIQUARIES
MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY
EDWARDS PROFESSOR OF EGYPTOLOGY, UNIVERSITY OF LONDON

G. A. WAINWRIGHT, B.A.

AND

E. MACKAY

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Mr. Angelo Hayter has kindly drawn the pottery of four plates.

THE LABYRINTH, GERZEH, AND MAZGHUNEH

CHAPTER I

THE SITE OF EL GERZEH

By *GERALD WAINWRIGHT*

1. EARLY in December 1910 I began work again at Meydum, to clear up certain questions which had to be left undecided last year. These were: to make certain, if possible, whether there were a low temple, belonging to the pyramid of Sneferu, at the edge of the cultivation; to see what could be made of the construction of the pyramid; to find Atet's chamber in the great mastaba belonging to her and her husband Nefermaat; and to clear out the original passage leading into the chamber of Nefermaat, which was discovered last year. Besides this there was an xviiiith-dynasty cemetery to be examined about 4 miles to the north. Though one of the Meydum group of cemeteries, and worked from Meydum, it would be better named El Gerzeh, for it is close to that village and to the other cemetery, which we found later on in the season. At the end of January, when this work was coming to an end, it became necessary to look for another site, and on scouring the desert in the neighbourhood of this xviiiith-dynasty cemetery, at a distance of about half a mile to the north, we came upon a few graves, which produced objects of the usual pre-dynastic type. These are well known in the south country, but no detailed account has yet been published of any further to the north than the Abydos district, 200 miles away. I was fortunate in having the help of Mr. Bushe-Fox, who once more left his work on the Roman sites in England to come out and take a part in the excavations. He arrived just in time to push on the final stages of the work at Meydum, and we finished up the planning, pot-drawing and photography, and set to work to build a new hut by the site of the pre-dynastic cemetery. In the course of ten days or so we moved in, dismantling the old Meydum house.

2. The site of this pre-dynastic cemetery is a shallow *wady* in a slightly raised gravel bed, just to

the south of the head of the embankment road from El Riqqeh to the Fayum. It lies about 300 yards into the desert from the present edge of the cultivation, and about 200 yards south of the great wady, which leads the road across the desert from the embankment head. The dunes, among which the cemetery lies, form the north side of a great bay in the desert edge. This bay is now coming under cultivation. The xviiiith-dynasty cemetery lay on the south side of this bay. There is also a Mohammedan cemetery on a bluff which rises a few hundred yards to the north of the embankment head, and north of this again lies a Roman cemetery.

While trenching the desert in the neighbourhood of the embankment head for any more cemeteries, we found three or four isolated graves of the xiith dynasty, but no regular cemetery of that period. These graves were dug in the deep sand overlying the gravel, in the wady up which runs the Fayum road; hence their position was analogous to that of the pre-dynastic graves found in the next wady to the south, which were also dug through the sand into the underlying gravel or marl, as the case may be.

A little further into the desert, on the high ground at the north side of the road wady, were some curious deep pits, of quite irregular shape, from one of which came a few flint flakes, and from another the hoard of bronze figured on pl. xxii. The hiding of the bronze was not the object for which the pit was dug, as the *cache* was made quite high up in the filling of the pit, only 3 feet or so below the surface. The purpose of the pits is quite inexplicable at present, for, although we dug out a couple of dozen of them, they produced nothing whatever beyond these objects. Not a single bone or fragment of bone was found in or near them. No grain was found, and they did not appear to be granaries.

There were also two large pit tombs, one half a mile into the desert, the other close to the cultivation. A central hollow, now filled with blown sand, is in each case surrounded by large mounds of gravel with

here and there a bleached piece of bone, showing only too plainly that they have suffered the usual fate of Egyptian tombs in having been plundered.

3. In trenching round the pre-dynastic cemetery, we found another curious one, consisting of only nine graves, most of which were plundered, probably owing to the fact that they had been dug in the higher ground around the edges of the pre-dynastic wady. The skeletons that remained were in the very contracted position of the proto-dynastic period, with the head N. or rather N.E. (see pl. i, 1). The only objects obtained from these nine graves were three small limestone vases of iind-dynasty shape, as *El Amrah and Abydos*, pl. xvi, no. 8, a few fragments of a beautiful rosy pink limestone table of offerings, and a piece of a large finely worked alabaster bowl. This small isolated community seems strange. We may well ask, how did nine individuals come to be inhabiting the neighbourhood apparently all by themselves, with no immediate predecessors and their nearest successors being presumably at the end of the iind dynasty more than four miles away at Meydum? Quite close to these nine graves was a wide layer of black ashes, from which we were unable to obtain anything beyond the ashes. Lastly we may note that there were a number of Bedawy *ezbehs* scattered all round these cemeteries and all close to the Fayum road.

CHAPTER II

THE SEQUENCE DATING

By GERALD WAINWRIGHT

4. WHILE working up the results obtained from the pre-dynastic cemetery, there was good opportunity for adding to the system of Sequence Dates set out in *Diospolis Parva*. The check on the general accuracy of this system is the more satisfactory as it is supplied from a very different part of the country, El Gerzeh being some 200 miles north of Naqada and Diospolis Parva, on the pottery of which places the arrangement was built up. We now know that this sequence dating is not a local affair applicable only to the South country, but extends over the whole land. As was found by Randall-MacIver at El Amrah, the sequence dates of the pots in any given grave coincide closely one with another. Had the ranges been derived from a faulty system, this could hardly have occurred time after time, as it did, in some 290 graves at El Gerzeh, as well as in the

cemeteries of El Amrah. At every revision the ranges put forward in *Diospolis Parva* are of course liable to some slight expansion, as they were not the result of an exhaustive study of the whole civilisation of pre-dynastic Egypt, but only of a study of that portion of it exhibited in a small number of cemeteries. The types which bear only one isolated, or several isolated, dates will be especially liable to revision, for the isolation of these dates implies that only a single specimen was found, and that it occurred at that date in the original 900 graves, which formed the *corpus*. If there are but one or two isolated dates, it means that the type only occurred once or twice, and therefore its history was not sufficiently known to provide a range.

5. Below is a list of additions necessary to be made to the isolated dates already published, to make them coincide with the ranges of the groups of pottery with which these types were found at El Gerzeh. Yet out of the whole cemetery it is only necessary to make additions to seventeen types, and it will be seen on looking down the list that the additions are very slight, and that no alteration of the general position of the type in the sequence of dates is required. For instance, only a single pot of the type P 94 *b* was found at S.D. 46 in the original making up of the *corpus*.

Now however at El Gerzeh this type is found—again as an isolated specimen—occurring in grave 63, whose range, deducible apart from this pot, is S.D. 52–68. It is therefore evident that this type did not show its full range at Naqada and Diospolis, but had a range extending from 46—as found before—to at least 52, the lowest number at which it would correspond to the range of the other pots found with it at El Gerzeh. A check is supplied by the allied type P 94 *a* which is found at the intermediate dates S.D. 50, 51. The extension of P 94 *b* to S.D. 52 then is quite consistent, and the sequence date of P 94 *b* will in future read S.D. 46, 52.

The types, which showed a clear range in the *corpus*, naturally did not require so much expansion in their sequence dates as did those isolated ones.

As a matter of fact, out of the whole cemetery only the four ranges given below had to be expanded at all to make them fit, and these four expansions were only very slight. For instance, a specimen of D 59 *b* was found in grave 139. The range of this grave according to its types of pottery, other than D 59 *b*, was S.D. 62–66. Again, in grave 169, otherwise ranging from S.D. 61–62, a specimen of D 59 *b* was

found. By the evidence of the cemetery of El Gerzeh, then, D 59 *b* must last at least as late as S.D. 62 in order to coincide with its contemporary types. But the range given in the *corpus* to D 59 *b* is only S.D. 46–60. It is therefore evident that this type did not exhibit its full range when the *corpus* was made up, and it is 2 points short in the case of grave 139, and 1 point short in the case of grave 169. In order to make the whole contents of the graves agree it will be necessary to lengthen the range of D 59 *b* by these 2 points, and to revise the range of D 59 *b* from S.D. 46–60 to S.D. 46–62.

To these four alterations it must be added that F 58 *a* may run on as late as S.D. 58, when it occurs in Rough-faced pottery.

The revisions therefore are 22, and the revised list is :

Polished Red Pottery [P]:

S.D.	S.D.
11 <i>c.</i> 35–63	46 <i>b.</i> 38, 70, 72, 75
40 <i>d.</i> 57, 63, 64	78 <i>a.</i> 65, 68
41 <i>b.</i> 42, 44, 47	94 <i>b.</i> 46, 52
<i>c.</i> 35, 43, 58	

Fancy Forms [F]:

58 *a.* 40–58

Decorated Pottery [D]:

S.D.	S.D.
5 <i>b.</i> 44, 45, 47	36 <i>c.</i> 40, 50
7 <i>a.</i> 40, 44, 52	47. 52, 53, 60
11. 44, 47	59 <i>b.</i> 46–62
14. 48, 62	67 <i>a.</i> 46–58

Rough-faced Pottery [R]:

S.D.	S.D.
44 <i>a.</i> 57, 60	68 <i>a.</i> 40–58
51. 33, 44, 47	71 <i>a.</i> 55, 58, 63
65 <i>b.</i> 47–66	93 <i>a.</i> 37–50

6. A number of new types were found, which have been worked into the *corpus* of sequence dates. To do this there was no need to revert to the system explained in *Diospolis Parva*, for the *corpus* is now in existence, and by means of it we can assign dates to forms of pottery, just as well as to forms of stone vases, etc. It will be remembered that by the *Diospolis Parva* system the range there given to each type may be longer, but cannot be shorter. But this is not the case with the ranges here applied to the new types, for every new shape has been given the shortest range which will cover all the graves in

which it was found. Hence it is evident that the ranges given to these new types represent, in each case, the shortest range deducible from the comparatively few graves at El Gerzeh, and may be extended in future like the other sequence dates. For instance, P 84 *g* is found in graves 45 and 193, of which the sequence dates are :

	S.D.
Grave 45 . . .	50–70
„ 193 . . .	52–68
	<hr/> 52–68

The range S.D. 52–68 being common to both is for the present, therefore, the range of this type of pot. But it is possible that, on revision by the material provided from another cemetery, P 84 *g* may be found in a grave whose range is only S.D. 51–65. The shortest known range would then become S.D. 52–65.

Again, when a new type such as W 2 *c* has been given a long range—in this case S.D. 43–70—it does not mean that it is a common type occurring continually, as it would mean in *Diospolis Parva*, but merely that it was found in a grave which otherwise only contained common pottery, and so could not be exactly dated. As a matter of fact this was a very rare type, of which only this one example was found.

Therefore, while the ranges here given form a useful basis for the dating of fresh material and are quite reliable, yet, owing to the small number of instances, they do not present the same solidity of an irreducible minimum, as do the ranges in *Diospolis Parva*, but are liable to a certain expansion or contraction according to further evidence, whereas the *Diospolis Parva* ranges cannot be contracted, but only expanded.

New Types.

Black-topped Pottery [B] pl. x:

S.D.	S.D.
57 <i>b.</i> 50–68	76 <i>c.</i> 47–64

Polished Red Pottery [P] pl. ix:

S.D.	S.D.
16 <i>b.</i> 55, 57	38 <i>b.</i> 59, 61, 65
23 <i>f.</i> 57, 64	57 <i>c.</i> 47–63
<i>g.</i> 58, 60, 61, 65	71 <i>c.</i> 52–63
32 <i>b.</i> 52–63	75 <i>d.</i> 65
36 <i>c.</i> 48, 49, 59	<i>e.</i> 58

S.D.	S.D.
75 <i>f.</i> 60	84 <i>e.</i> 55
<i>g.</i> 61	<i>f.</i> 52-63
<i>h.</i> 50-60	<i>g.</i> 52-68
<i>i.</i> 64, 65	<i>h.</i> 57
77 <i>b.</i> 36-71	<i>i.</i> 57, 64, 65
<i>c.</i> 55, 57	95 <i>d.</i> 43-70
81 <i>c.</i> 55, 57-63	96 <i>c.</i> 53-66
<i>d.</i> 47-65	97 <i>b.</i> 42-77
82 <i>d.</i> 47-70	98 <i>c.</i> 52-70
84 <i>c.</i> 55-60	100 <i>a.</i> 47-78
<i>d.</i> 57	

Fancy Forms [F] pl. xi :

S.D.	S.D.
32 <i>a.</i> 57	32 <i>e.</i> 65
<i>b.</i> 59, 61, 65	<i>f.</i> 66
<i>c.</i> 63	46 <i>b.</i> 50-70
<i>d.</i> 47-65	100. 47-70

Wavy-handled Pottery [W] pl. xi :

S.D.	S.D.
2 <i>c.</i> 43-70	42 <i>c.</i> 58-63
<i>d.</i> 57, 64	<i>d.</i> 47-65
19 <i>b.</i> 58-62	<i>f.</i> 51-63
42 <i>b.</i> 58-63	

Decorated Pottery [D] pl. ix :

S.D.	S.D.
4 <i>b.</i> 60, 61	44. 50-70
7 <i>d.</i> 58	59 <i>f.</i> 49, 59
8 <i>e.</i> 48, 49, 59	61 <i>a.</i> 47-77
12 <i>b.</i> 41, 57, 60, 61, 64	67 <i>d.</i> 52, 55, 57, 63
18 <i>d.</i> 60-65	68 <i>c.</i> 63
43 <i>b.</i> 52-63	

Rough-faced Pottery [R] pl. x :

S.D.	S.D.
33 <i>b.</i> 43-70	70. 47-57
42 <i>d.</i> 57, 64, 66	74 <i>b.</i> 47, 50-66
43 <i>b.</i> 50-70	<i>c.</i> 53-66
<i>c.</i> 43-70	<i>d.</i> 50-64
44 <i>b.</i> 55	76 <i>c.</i> 52-53
<i>c.</i> 51-63	79 <i>b.</i> 47-52, 57, 64
<i>d.</i> 52-70	88 <i>b.</i> 61
<i>e.</i> 66	91 <i>d.</i> 55, 63
63 <i>a.</i> 47-78	93 <i>c.</i> 58-63
65 <i>e.</i> 47-64	101 <i>a.</i> 39-73
66 <i>b.</i> 47-57	<i>b.</i> 57, 64
69 <i>e.</i> 53-63	102. 43-70
<i>f.</i> 47-57	103. 63
<i>g.</i> 50, 57, 64	

Late Pottery [L] pl. xi :

S.D.	S.D.
53 <i>r.</i> 59	53 <i>t.</i> 47-57
<i>s.</i> 63	43 <i>b.</i> 52-76

Black Polished [BP] pl. x.

S.D.	S.D.
1 <i>a.</i> 50-77	3. 55, 57
<i>b.</i> 57	4. 57, 63
2. 40-65	

CHAPTER III

THE BURIALS

By GERALD WAINWRIGHT

7. THE graves were of two kinds, one large and roughly oblong about 50 × 30 inches, and the other very small and much more truly oblong. These are found as small as 25 × 15 inches, and are naturally more frequent when the graves are dug in the marl. The graves were, as a rule, dug through the sand on to the underlying gravel, which formed the floor of the grave, though sometimes they did not reach the gravel, but stopped short in the sand. Some of them, however, were cut down into the hard gravel itself as much as 24 and 36 inches, and where the marl was the underlying stratum the grave was cut down to it, and sometimes into it, a matter of 20 to 30 inches. Therefore though the pre-dynastic people preferred not to dig in tough rock, this material presented no difficulties insuperable to their tools. Most of the graves were deeply covered with sand, there being as much as 80 inches over no. 139, and 70 inches or so over many more. At the higher edges of the depression the graves were, however, very shallow. These were cut entirely in the gravel, and the pottery in a few graves was actually showing above ground.

There appeared to be no roofing composed of brushwood upheld on branches, nor were there any brick-lined graves, but in five instances the whole burial had been carefully plastered over with mud, as is shown in pl. ii. In the case of no. 113, pl. ii, 11, a regular coffin seems to have been built round the burial, the mud being supported on the mat with which the body was covered, and then the whole thing sagged in with its own weight. In the case of nos. 142 and 133, pl. ii, 8 and 9, the mud appears to have been worked over the body up to a central roof ridge running N. and S. This system was evidently the more successful, and has stood intact.

In neither case was any mat used. In no. 142 some of the offering pots were placed outside the covering, thus anticipating the usage found in the ist and iind dynasties (*Royal Tombs*, I, pls. lx, lxi; II, pls. lx, lxi), where chambers for the offerings were built round the tomb chamber, three of which, in the case of Merneit, were found still well stocked with jars.

Multiple burials may be said not to exist in this cemetery; for, excepting graves 121 and 171, which are the burials of a mother and child (pls. i, 4, iii, 6), there is only one instance, no. 143, and in this there are three skeletons. They are laid with their heads N.W. and their faces W. All the other burials are single. Grave 110 contained the skeleton of a woman and a foetus lying on the backbone. The grave was situated among the others—was not separated in any way—and showed no signs of any special treatment.

8. Out of the 288 graves which we opened in the pre-dynastic cemetery, 39 were plundered or of the New Kingdom period, leaving a balance of 249 unopened graves. Of these intact graves—

51	were burials of infants or children
198	„ „ „ „ adults
249	

Therefore the child mortality was very high indeed, one-fifth of the population dying in youth. Five of these children were buried in large pots, for which a cover was provided either by a dish or a broken pot. In grave 77 the large pot containing the burial, though covered at the mouth, had a hole knocked in the bottom. In this grave the child is buried with its mother, though a pot is used; in the other cases of pot burial there is no other burial in the grave. The child was about ten months old, as its teeth were just coming through. Two of the other children were buried with their mothers, no. 121 (pl. i, 4) being broken up, and no. 171 (pl. iii, 6)—a big child—being laid alongside her.

9. The orientation of the children was very varied.

Number of Burials.	Direction of Head.	Lying on L.	Lying on R.
14	N.	11	3
16	S.	15	1
3	E.	1	2
5	W.	2	3
4	N.W.	3	1
1	N.E.	1	—
2	S.E.	2	—
1	S.W.	1	—
—		—	—
46		36	10

Though the normal pre-dynastic position of the head to the south and the face to the west, lying on the left side, was more general than any other, yet the abnormal positions outnumber the normal. The attitude is much the same as that of the adults, except that in seven the knees are not sharply flexed, but are only slightly bent. Seven of them are also in a position not found among the adults, a position in which one of the hands rests on, or in front of, the pelvis. Among the adults an approximation to this attitude is found in only five cases, where the arm is stretched down to the knees or round the ribs. The children were well provided for, having at least one and generally many vases, while several of them had fine painted pots, and nine had stone vases; most of them had a little galena and malachite; three had slate palettes; nine had beads; one of the two amulets found came from a child's grave; one had a fine flint flake; another had a curious rod, either of *kohl*, or else very corroded metal, with an ivory point set in it (pl. vi, 11). The richest grave of all, no. 67, was that of a fair-sized boy, whence came the iron beads (which are described in chap. vi), the only weapon found, which was a pear-shaped mace-head of white limestone, also a copper harpoon (the only hunting implement found), a fine slate palette, and the only ivory vase found. The whole tomb group is figured on pl. xiii. Two of the best stone vases came from grave 81—an infant's grave.

The attitude and orientation of the adult burials are drawn up in the accompanying table:

Number of Burials.	Direction of Head.	Lying on L.	Lying on R.	Various Attitudes.
99	N.	76	23	—
35	S.	27	6	2
15	E.	13	2	—
10	W.	4	6	—
14	N.W.	9	5	—
12	N.E.	11	1	—
7	S.E.	5	2	—
6	S.W.	6	—	—
198		151	45	2

While the normal position on the left side is preserved in three-quarters of the cases, the orientation of the body is in only a sixth of the graves in the regular pre-dynastic direction of the head to the south; and while the children favour the usual south position of the head, the adults are buried in half the graves with their heads to the

north. This, it will be remembered, is the early dynastic position. It is found in the neighbouring iiiird-dynasty cemetery of Meydum (*Medum*, p. 21, *Meydum and Memphis*, iii, p. 29); and in the ist dynasty the five servants of King Qa were buried, four with their heads to the north, and only one with his head to the south (*Royal Tombs*, i, p. 14). In these cases the skeletons generally lie on the left side, though occasionally on the right. It seems therefore that the dynastic direction of the head to the north was already in use by the more northern prehistoric people.

10. Forty-six of the burials were wrapped in what appeared to be a reed mat (pl. i, 3). A sample of the mat, in which no. 262 was wrapped, was examined by Mr. W. W. Midgley of Bolton, and is pronounced to consist of Rhamie or China Grass. Woven material was found in six instances. Samples were sent to Mr. Midgley, who reports that the yarn is made of Rhamie fibre. On those samples which were in the best condition he reports as follows:

"No. 262 A. A plain (one-up-and-one-down) type of cloth, in which there are 48 'ends' and 24 'picks' per linear inch. About 60 per cent. of the warp yarns are doubled, 3 per cent. are *trebled*, and 37 per cent. single yarns. Only about 10 per cent. of the weft yarns are doubled, and these are inserted at irregular intervals. Both warp and weft are irregular in diameter. On examining the fibres, it was evident they were too coarse to be flax, but have all the characteristics of Rhamie fibre. Micro-measurements were made of ten fibres: these varied in diameter from $\frac{1}{833}$ to $\frac{1}{2500}$ inch, with a mean of $\frac{1}{1100}$ inch.

"No. 262 B. A plain weave, with 56 'ends' and 30 'picks' per inch. About 20 per cent. of the warp yarns are double, all the rest being single. The weft is composed entirely of single yarn. Both warp and weft yarns are more regular in diameter than the preceding. The measurements of diameter of the fibres are practically the same as the above.

"No. 262 C. A plain woven fabric, with 60 'ends' and 20 'picks' per inch. About half the warp yarns are doubled, but are very irregular in diameter. The diameter of the fibres ranged from $\frac{1}{600}$ to $\frac{1}{2000}$ inch, with a mean of $\frac{1}{1100}$ inch. The characteristics and diameter of the fibres of the three cloths from the 262 grave indicate that the fabrics were made from Rhamie fibre, and that of a quality not unlike such fibre as is in the market at the present day.

"No. 263 A. On account of the friable condition of the fabric, it is difficult to make much out with any

degree of certainty. It is clear that it contains 88 'ends' and 32 'picks' per inch. Also that in both warp and weft there are some of the yarns doubled.

"No. 263 B. The striking feature in the appearance of this cloth is its fineness and evenness of diameter in the yarns. There are 88 'ends' and 52 'picks' per inch. The cloth is peculiar (instances of the same occur in early Egyptian cloths) in *not having the weft at right angles to the warp*—in this case it is about 20° out.

"No. 263 C. Made out of evenly-spun single yarns, with 76 'ends' and 40 'picks' per inch. This fabric is also peculiar in having the weft put in quite 40° from right angle to warp.

"No. 263 D. The cloth contains 88 'ends' and 36 'picks' per inch. Nearly all the warp and weft yarns are doubled and are fairly regular in diameter."

In reply to a query about the origin of the variation of the angle between the warp and the weft Mr. Midgley kindly wrote the following:

"The fact of the weft not being at right angles to the warp, if one may conclude by the fabrics, does not, I think, imply that such weaving is of inferior quality. When I noticed the peculiarity first, I thought it might have arisen through distortion by stretching over the body, but repeated examples of the same fact have led me to consider other causes. We know how closely analogous to 'darning' was the early weaving; and in our days it is not unusual to find stockings not darned at right angles, and it may be the women weavers of old sometimes put in the weft more or less out of true right angle. In the childhood of weaving we should expect different methods, and it may be, seeing that we have no evidence of selvaged cloth until very long after this time, that they experimented with a diagonal weft to see if it would not reduce the tendency to fray out at the sides."

11. This cloth was used in various ways.

No. 254 had cloth only on the lower vertebrae of the backbone, therefore apparently had a waistcloth.

Nos. 257, 262, 263, 265 had the cloth simply lying on the skeletons and none underneath except in the case of 263, where it went under the chest. There was also a thick pad on the hands, and another on the pelvis. In 257 the cloth was wedged tightly against the outside of the backbone. Probably therefore over each of these a cere-cloth was laid after they were put in the grave.

No. 11 appeared to have had the bones wrapped round with cloth.

We found no signs of leather being employed for wrapping, in the whole cemetery.

12. Some of the bodies presented evident signs of having been interred while the flesh was still on. In no. 265 faeces were found inside the skeleton in rows across the body between the ribs and pelvis, and again a sample of the cloth taken from no. 263 proved on examination to be impregnated with faeces. In both cases therefore the dead men must have been buried as bodies and not as skeletons and no. 263 at least must have been buried within a few hours of death. Hair was found on many of the skulls. The skulls were all cracked into small fragments, yet were unable to fall in completely owing to the sand which filled the inside. In some cases the skull was so completely filled that the cracked upper side had not been able to sink in the least, but gave the appearance of a perfect skull, because it was lying on the enclosed sand. In fact the cast of the interior of the skull remained on the surface of the sand on removing the upper pieces of bone. It is a curious question how the sand got in so completely. It could certainly not have penetrated through the cracks, for when cracked the skull must have fallen in, if empty. It must therefore have entered before the cracking of the skull, and it must have filled every crevice while the skull was still perfect. The penetration of a little sand through the eye-sockets and nostrils would be understandable, but when the skull became filled above the level of these, it seems strange that still more should enter. As will be seen in pl. ii, 10, the skull of no. 142 is quite packed with sand although the burial was closely coated with mud, hence there could be very little or no sand to penetrate of its own accord. Two analogous cases were noted in graves 127 and 276, where in each case a leg bone, (which to all appearances was perfect, so closely did the crack fit,) fell apart when lifted, cracked into two halves, and was found to be as full of sand in 127, and marl in 276, as if it had been rammed.

13. In graves 76 we found carnelian and gold beads

„ „ 138 „ 2 carnelian beads
„ „ 142 „ carnelian and sundry other beads

in the sand filling of the skull. In 138 these beads were large, being a full $\frac{1}{4}$ inch in diameter.

In 8 graves we found that bones of some large animal, presumably an ox, but possibly a deer, had been laid with the dead man.

	Graves:	10	16	20	33	109	110a	116	209	Total
Ribs	.	.	•	•	•	•	•			5
Shoulder blade			•						•	2
Broken uncer- tain piece								•		1

The ribs were always found in pairs. From the above table it will be seen that a rib of beef was evidently the favourite joint.

Dr. Goodbody, of University College, London, undertook the analysis of such samples of the pot contents as were not of a botanical nature, and found them to be flesh, though of what origin it is impossible to say definitely. On examination by ether very little or no fat was found. The presumption therefore is, that the substance is the flesh either of an ox or deer, or it may possibly be human. The greatest quantity of fat estimated by ether extract was 2 per cent. In at least 3 cases there was a strong suspicion of resin, as on burning the substance gave out a strong resinous or oily smell, but on analysis the substance does not answer to all the resin tests. In one case, no. 25, the flesh had been wrapped up in leaves, for a leafy structure was identified on the outside. The flesh was not confined to any particular type of pot, for in no. 25 the sample was taken from a rough-faced pot, in no. 254 it was taken from a wavy-handled pot, and the sample from no. 13 came from a painted pot. In the case of no. 254 there was very little flesh, but it was mixed with a great deal of earth.

Many of the vases contained a substance in a spongy, or at times powdery, condition. A specimen was examined by Prof. F. W. Oliver, of University College, London, who reports:

“The spongy material contains quantities of the glumes (chaff) of a species of *Triticum* (wheat). As starch grains were also recognised in nests of cells, it is probable that grains of wheat were present with the glumes.”

There were no pots full of beetles buried as at Diospolis Parva, nor were any dogs buried as at the above place and Naqada.

Wood occurred in 11 graves, mostly as a single piece of stick about 2 inches in diameter. In 8 cases these occurred near the walls of the grave, or just under the extremities of the skeleton. In no. 173 the wood was found included in a pile of pebbles and other odds and ends. The other two were plundered and nothing could be gathered as to the original position of the wood.

14. What appears in the plan (pl. xiii) as grave 108 was a very unaccountable piece of work, being a long deep trench running north and south. It measured 83 × 22 inches, and was cut 25 inches deep into the rock. There was no burial here, but the whole was filled with grey ashes and charcoal. The only objects found were 3 finger bones, of which 2 were burnt and the other showed no signs of burning. No potsherds or other objects of any sort were found. As will be seen from the plan, it is in the middle of the graves. Probably this was the burning-place of the offerings for the dead and possibly from this fire came the innumerable potfuls of ashes which are always found buried with these people. It is curious that finger bones should have been found here, and also occasionally in the pots in the graves. It is possible that the earth with which these bones were mixed in these pots had retained its original crumbliness through having been burnt and mixed with a little ashes. In the ash-jars some earth and occasionally sand and a few scraps of pottery or flint were found, suggesting that the ashes had been scraped from a hearth. None of these details were observed in this trench.

15. The nine iind-dynasty burials were all plundered, except that figured pl. i, 1. The graves were different to the pre-dynastic ones, being much more box-like, quite truly oblong, with the corners sharply cut out. No. 1 was lined with brick and produced the three small limestone vases. The position of the only undisturbed body, no. 8 (pl. i, 1), is much more tightly flexed than that of the pre-dynastic people, though the pre-dynastic no. 12 (pl. i, 2) nearly approaches it. The orientation of no. 8 is the dynastic, the head being to the N.E.

CHAPTER IV

EVIDENCES OF THE MUTILATION OF BODIES

By GERALD WAINWRIGHT

16. ALL through the work we were careful to distinguish any mutilation of the bodies, as apart from either plundering or the hypothetical reconstruction of the burial by relatives after the discovery of an outrage. We thus eliminated the numerous graves which showed the usual signs of plundering, such as chips of pottery, bones and pieces of bones, and even whole pots high up in the filling, and scattered pell-mell at every level from the surface of the ground down to the confused pile of bones mixed up with the

pots and potsherds in the middle of the grave. We also eliminated grave no. 238 as a probable restoration; for on examining the skeleton we found the left knee joint and only a few inches of the femur and tibia remaining in their proper position, the greater part of both of these bones having disappeared, as had the pelvis and the right leg. The place of the right femur, however, had been supplied by some one else's forearm, as an ulna and radius were found, where a femur was anticipated. The skeleton had both its forearms attached to the humeri in the usual way. Moreover the grave contained no pottery, and another grave had been cut through one corner.

After thus discriminating the results of plundering and a possible reconstruction, and after further eliminating several doubtful cases, we have twelve cases left, which cannot be accounted for by these means, nor yet by the theory of the falling to pieces by natural decay, for in no case of the displacement of bones was there a roofing of any sort, nor even a mat, to preserve a free space round the body in which bones could move; but as soon as the sand filling was thrown in it fell directly on to the corpse itself. This displacement of bones cannot be thought to be due to our workmen carelessly replacing bones which they had moved in the work, for the bones were so cracked and perished that they fell to pieces at a touch, and we were unable to obtain a single perfect specimen from the whole cemetery.

These twelve graves bear no sign whatever of plundering, apart from the details which we here take to be the result of mutilation. In these graves the bones were all lying in place on the clean floor of the grave, cut in the gravel or marl. In at least two cases, nos. 67 and 142, there were very good reasons why the disorder could not possibly be the result of plundering.

No. 67. The head appeared to be severed from the body, as it was standing on its base, and a neck vertebra was found some distance out of place between the shoulders; yet the valuable necklace of gold, iron, carnelian, and agate beads was left round the neck. Had a plunderer been feeling round the neck it is highly improbable that he should miss the necklace, and disturb only one vertebra, leaving all the others in their places—see pl. xiii, where the disturbed vertebra is indicated by v.

No. 142. The greater part of the feet are missing, although the burial was covered with an *unbroken* mud coating some 2 inches thick, pl. ii, 8, 10. The burial was cleaned by one of the oldest and most

experienced men, and when I found that the forepart of the upper foot was missing, I cleared the lower one myself from the untouched sand, and found it to be in the same condition. There is not the least likelihood of the upper foot having been disturbed in the cleaning and then cleared away, for the man was accustomed to tell me when he had disturbed bones, and to leave them for me to see, as he did with the finger bones of this very burial.

17. From these two cases, which present every probability against the plundering theory, we will proceed to the others, none of which show any sign of plundering or disturbance other than the detail described.

No. 123. The pelvis was entirely missing, together with the lower vertebrae.

No. 137. The feet were entirely missing.

No. 138. The sacrum was gone, and only two broken pieces of the iliac bones remained, while the left femur was articulated into the left iliac bone, the right femur was laid 4 or 5 inches away from the iliac bone, and upon the heel bone and two other bones of the foot. Beyond these three pieces there was no other sign of the feet. The condition of the feet confirms that of 142, and this grave, again, was cleared by one of the most straightforward and intelligent of the men, and one who has been with us for years.

No. 171. The left iliac bone was removed from the sacrum, and was separated from it by some distance; it was out of articulation with the femur, and had been turned right round, as shown in pl. iii, 6, 7. That this is the result of the burying of the child is improbable, as the arms, upon which the child is actually laid, are undisturbed, whereas the left iliac bone is almost further removed from that possible scene of disturbance than any other part of the body. The left iliac bone was lying upon the heel of the left foot, but 4 inches of sand intervened between them. One of the child's teeth was found by its left elbow.

No. 187. Two of the hand bones were lying apart from the hand, alongside of the forearm, in the undisturbed sand, whence Mr. Bushe-Fox took them himself.

No. 200. The six highest vertebrae were entirely missing. The skull had never been moved, for it was tightly wedged against the pots and was smoothly covered by a mat, which passed down between it and the pots, which were standing upon it. It seems impossible that plunderers could have

located the exact position of the neck, and having dug down upon it, could have removed it intact without disturbing any other part of the grave.

No. 206. This grave is figured in pl. iii, 5. Although hardly a bone is in articulation, much of the separation is not necessarily artificial; but the position of the head and the two tibiae and fibulae cannot be due to natural causes. The tibiae and fibulae are inverted so that the ankle ends approach the knee ends of the femora, and the knee ends are turned right away. Moreover, the bones of the feet were scattered, a few being laid at the end of the tibiae, the rest, with the kneecaps and bones of the hand, being laid on the other side, close to the second pot from the bottom of the photograph. As natural decay will not account for their position, no more will plundering; for the skeleton lay evenly on the gravel floor of the grave, and it was actually placed under many of its pots, which show no sign of disturbance. Natural causes, plundering, or reconstruction would be equally unsatisfactory explanations of the position of the head. Not only was the skull, with three vertebrae attached, found to be transposed on to the back of the skeleton, between the shoulders (which could scarcely happen naturally), but further, the beads were found still in place under the skull. The position of these beads negatives any movement after burial by plunderers or from other causes. Hence, though a great part of the apparent dismemberment might be explained as due to natural collapse of the body, yet the position of the head, tibiae, fibulae, kneecap, and foot bones seems inexplicable except on the hypothesis of mutilation at the time of burial.

No. 251. The head and right leg were missing. This was a very small grave, being only 38 inches long, and there never was room for the head, so that the condition of the body cannot be explained as the result of plundering.

No. 280. The ends of the tibiae were broken at the ankle, but a few of the foot bones remained beyond the broken legs. The left iliac bone was missing from the pelvis. As the body was lying on the left side, the missing ilium should have been underneath the other bones; but as these were intact and undisturbed, the removal of the left ilium cannot be the work of plunderers or careless workmen.

No. 284. The finger bones of the left hand were scattered about near the forearm. I removed them myself from the undisturbed sand.

18. The above information is here tabulated.

Part affected.	Grave.	Total.
Neck vertebrae . . .	67, 200, 206, 251	4
Pelvis	123, 138, 171, 280	4
Femur	251	1
Tibia	206, 251	2
Feet	137, 138, 142, 206, 280	5
Hand	187, 284	2

We find that mutilation is mostly confined to the feet, and next, to the pelvis and neck. When we add the femur and tibia to the pelvis and feet, we find that in 12 out of a total of 18 separate mutilations, it is the lower limbs which have suffered. The neck has suffered in 4 cases and the hands in 2 cases. Though we shall discuss the full significance of the rite in the next chapter, the mutilation or dismemberment probably took the form here set forth with the extra intention of laying the ghost, either by preventing it from walking, or by killing it by cutting off the head, or lastly by depriving it of power, if it should walk, by destroying its hands. Possibly connected with this rite are the curious finds of small bones, which are occasionally found mixed up with earth, rarely with sand, and once in mud, in the pots which are laid in the grave. They are always very small; and, when human, generally a single finger joint, though sometimes a bone of a very small animal takes its place. Occasionally it is just a splinter of bone. The earth was quite loose and crumbly, in contradistinction to the mud, which was a cake.

The finds were the following :

	Graves : 10	40	57	61	71	95	119	281	294	Total.
Small animal }	•		•				•			3
Finger bone }		•		•				•		3
Bone splinter }										
apparently human }					•					1
Uncertain						•			•	2

The finger bone in no. 281 was tiny, and with it was another just as tiny and a piece of a very young skull. From the pot in grave 10 came a chip of flint and a few chips of pottery along with the jawbone of the small animal. The bone from no. 71 was so small and broken that Dr. Goodbody, of University College, says he believes it to be human but would not care to state it definitely. The pots from graves 10, 61, 71, 95, 119, 294 contained earth, that from 40 contained mud, and those from 57 and 281 contained

sand. Out of the nine finds three are distinctly human and one is apparently so, while three are animal and two are uncertain.

Three similar human finger bones were found in the trench full of ashes no. 108. Of these, two were burnt. A curious analogy to these finger bones comes from the South Seas, where in the Island of Tonga the amputation of fingers was taking the place of child sacrifice when the arrival of Christianity stopped it (Mariner, *Account of the Tonga Islands*, 1827, i, 190, 300, ii, 22). It may be that there was child sacrifice in pre-dynastic Egypt, and that it died out there in exactly the same way as it did in Tonga. At any rate the presence of the fragment of the very young skull with the two small finger bones is suggestive. This instance is of value as a modern example, about which there is no question of interpreting archaeological evidence. But from ancient times there is an equally close parallel which has an even more important bearing on our finds, for it is nearer both in time, place, and nature. During the excavation of the site of Gezer, which is situated in South Palestine, Mr. R. A. S. Macalister discovered bones buried in pots. It will be simplest to quote his own words from the *Quarterly Statement* of the Pal. Explor. Fund, Jan. 1905, p. 32, where he says: "In a number of tombs, all about 1200 B.C., there were found with the vessels containing food exactly identical vessels containing one or more human bones. In one, for instance, was a small earthenware jug, containing the finger bones of an infant. In another was a similar jug, in which was an adult patella. Elsewhere was an infant's sacral bones. Most remarkable of all was a bowl into which the calvaria of a skull was exactly fitted, obviously with intention. . . . I am permitted, through the kindness of Dr. Merrill, to quote a parallel but apparently later example from Beit Jibrin. This specimen consisted of a bowl or cup-shaped glass vase, with a neck, and it contained an extraordinary assortment of relics: three adult toe bones (from different individuals); an adult finger bone; thumb bone of a child of 10; sacrum; right ulna and fragment of femur of an infant; and a foetal toe-bone."

"Two possible explanations suggest themselves. We may here find a reminiscence of a funeral feast in which originally ceremonial cannibalism had been practised. Or else the bones may have been regarded as amulets; superstitions attached to such relics as the fingers of drowned persons are familiar to everyone, and these bones may have had some

such virtue. I may re-assure possible sceptics, so far as I can foresee their objections, first, that it is impossible that the bones should have accidentally been intruded into the jugs, or been inserted by workmen, for in every case I cleared out the jugs myself, and saw that the earth they contained had been undisturbed before I did so; and secondly, that they are not the surviving bones of originally complete skeletons, buried in jars like the infants in the High Place; for the jugs are never more than six or eight inches high, and would not have contained skeletons of any size. The preponderance of infant bones will not escape attention." The infant burials to which Mr. Macalister refers are those found by him under the floor of the temple at Gezer. The skeletons were all those of new-born children, none of them being more than a week old (*P.E.F.Q.S.*, Jan. 1903, p. 33). A similar cemetery containing nothing but the burials of very young children has been found surrounding a rock altar at Tell Ta'annek by Prof. Sellin (*P.E.F.Q.S.*, July 1902, p. 303). There can be no doubt but that these infants' cemeteries are the remains of a widespread custom of child sacrifice, which may or may not be connected with the finds of bones reported above.

The parallelism of these finds to ours at El Gerzeh in Egypt is striking, and becomes the more significant in the presence of the pottery vase also found at El Gerzeh and described in sect. 31, the clay of which proved to have come from the Philistine plain. Thus once more we find connections between Predynastic Egypt and S. Palestine corroborating those already postulated by the occurrence of wavy-handled pottery in the two countries.

CHAPTER V

THE RITUAL OF DISMEMBERMENT

By GERALD WAINWRIGHT

19. IN the religious literature of the ancient Egyptians the rite of dismembering and unfleshing the body is curiously prominent in the earliest texts, and evidences of the practice remain on into the later times, where as a rule the underlying idea is plainly misunderstood or forgotten, as for instance in the title of ch. lxiii A of the *Book of the Dead* (Renouf, p. 115) "Chapter whereby one is not burnt with fire, but drinketh water, in the Underworld." In the text of the chapter itself there is no reference whatever to water drinking, but only to the risk of burning, to

which the dead man was exposed. May not this be a late surviving memory of a disused custom, of which we found an instance in the trench full of ashes, no. 108, which contained apparently burnt finger bones? With a growing civilisation there seemingly came an aversion to this custom, and this charm against it may be the outcome of such aversion. In later days when the custom had totally disappeared, the chapter could not be understood as it was, hence to give it a meaning the inconsequent "but drinketh water" is interpolated, being in consonance with the later religious ideas. The text of the chapter itself is of course not touched, and still only refers to burning.

The references in the Pyramid texts are numerous, and can mean nothing if they do not refer to a cutting up of the body of the dead man, and the necessity of his being pieced together again before being able to take advantage of the Underworld. Moreover there was no aversion to this custom in the minds of these early people, but on the contrary a strong desire to undergo so honourable a treatment; for Unas prays: "O, Nît, Aniou, Oîrit, Oîrit-hikoou, Nosirit, donne qu'Ounas soit mis en pièces, comme tu es mise en pièces" (Maspero, *Inscr. des Pyramides de Saqqarah*, p. 39). It may be noticed that Osiris does not appear among these various divinities, who were cut up in the way that Unas hopes to be cut up; hence this allusion must be independent of any influence from the Osirian legend, although that myth was in circulation and is referred to in the Pyramid texts. It is therefore the only one apparently of many myths concerning this custom which has survived to us.

20. We can best obtain a view of the state of affairs reflected in these Pyramid texts by tabulating their statements under the various parts. They are as follows:

Head. H.

1. "O Teti, car tu as soulevé ta tête pour tes os, tu as soulevé tes os pour ta tête" (p. 104).

2. "Sib . . . t'a fondé solidement, il t'a donné ta tête" (p. 124).

3. "Lève-toi Teti, car tu as reçu ta tête, tu as resserré tes os, tu as assemblé tes membres" (p. 126).

4. "Eveille-toi, Teti, lève-toi car tu as reçu ta tête, tu as assemblé tes os" (p. 143).

5. "Vienne qui vient, tu ne bouges pas; ta mère vient à toi et tu ne bouges pas; Nout vient à toi et tu ne bouges pas; la Grande modeleuse vient à toi et tu ne bouges pas; mais dès qu'elle t'a protégé à sa façon, tu bouges, car elle te donne ta tête,

elle te fait cadeaux de tes os, elle assemble tes chairs, elle t'apporte ton cœur dans ton ventre" (p. 164 and again not so fully on p. 164).

6. "On t'a fait cadeau de tes os, *tu as reçu ta tête*, auprès de Sib, et il détruit le mal qui est en toi, auprès de Toun" (p. 165 and again p. 166).

7. "Ounas devient *maître de sa tête*" (p. 54).

And in the Ceremony of the Opening of the Mouth it is said :

8. "Osiris Pepi Nofirkeri *tu as reçu ta tête*," when 4 Shonsi cakes are offered to the statue (p. 366).

Bones and Members. B and M.

1. "O Teti, car tu as soulevé ta tête pour tes os, *tu as soulevé tes os pour ta tête*" (p. 104).

2. "Tu a reçu ta tête, *tu as resserré tes os, tu as assemblé tes membres*" (p. 126).

3. "*Tes os ne s'anéantissent pas*, tes chairs ne se mettent pas en lambeaux . . . car tu es l'un des dieux, . . . et tu as ouvert les portes du ciel" (pp. 141, 142).

4. "Tu as reçu ta tête, *tu as assemblé tes os*" (p. 143).

5. "Dès qu'elle t'a protégé à sa façon, tu bouges, car elle te donne ta tête, *elle te fait cadeaux de tes os*, elle assemble tes chairs, elle t'apporte ton cœur dans ton ventre" (p. 164 and again not so fully on p. 164).

6. "*On t'a fait cadeau de tes os*, tu as reçu ta tête auprès de Sib, et il détruit le mal qui est en toi auprès de Toun" (p. 165 and again p. 166).

7. "*Pepi a réuni les os*, il a rassemblé ses chairs . . ." (p. 186).

8. Horus says he has come " . . . *resserrer pour toi tes os*, rassembler pour toi ta texture, resserrer tes lambeaux . . ." (p. 297).

9. "Lève-toi donc . . . puisque *tu as rassemblé tes os*" (p. 408).

10. Unas traverses the domains of Seb "*assemblant ses membres* qui sont dans la tombe, *rejoignant ceux qui sont dans le Nou*" (p. 60).

11. "Nephthys *a resserré pour toi tous les membres*. . . Hor t'a présenté tes chairs, et, comme il n'a pas donné ton moule, il t'a assemblé sans qu'il y ait de désordre en toi, Hor t'a dressé comme sans pareil (?) " (p. 121).

12. "Ta sœur Isis est venue à toi *avec tes membres* . . ." (p. 123).

13. "*Le cœur d'Ounas à lui, lui-même, ses jambes à lui, lui-même, son bras à lui, lui-même*" (p. 63).

14. Horus acts "comme ta sœur aînée, qui assemble tes chairs, *qui lie tes mains*, qui te serre entre ses bras, qui te trouve sur ton côté . . ." (p. 407).

15. "Cette huile [from the Eye of Horus] *t'a remis en ordre tes os*, elle t'a rassemblé tes chairs" (p. 386).

In the Ceremony of the Opening of the Mouth it is said :

16. "O Pepi Nofirkeri, voici qu' on t'a consolidé *tes mâchoires qui ont été séparées*," when a Kef-pashou is offered to the statue (p. 358).

21. *Flesh.* F.

1. "Hor *tire la chair* du double d'Ounas du corps de ceux-ci et de ceux-là, qui sont sur les épaules de Ra . . ." (p. 64).

2. "Nephthys a resserré pour toi tous les membres . . . *Hor t'a présenté tes chairs*, et, comme il n'a pas donné ton moule, il t'a assemblé sans qu'il y ait de désordre en toi, Hor t'a dressé comme sans pareil (?) " (p. 121).

3. "Tes os ne s'anéantissent pas, *tes chairs ne se mettent pas en lambeaux* . . ." (p. 141).

4. "Dès qu'elle t'a protégé à sa façon, tu bouges, car elle te donne ta tête, elle te fait cadeaux de tes os, *elle assemble tes chairs*, elle t'apporte ton cœur dans ton ventre" (p. 165).

5. "Ce Pepi y passe (au ciel), sa peau de panthère sur lui, le bâton et le fouet de ce Pepi dans son poing : *ce Pepi passe avec sa chair*" (p. 175).

6. "Que Mirinri passe, et *que passe sa chair*, que Mirinri passe et que passe [son] vêtement" (p. 325).

7. "Pepi a réuni les os, *il a rassemblé ses chairs* . . ." (p. 186).

8. Horus says he has come "*resserrer pour toi tes os, rassembler pour toi ta texture, resserrer tes lambeaux*" (p. 297).

9. Horus acts "comme ta sœur aînée, *qui assemble tes chairs*, qui lie tes mains, qui te serre entre ses bras, qui te trouve sur ton côté . . ." (p. 407).

10. "Cette huile [from the Eye of Horus] t'a remis en ordre tes os, *elle t'a rassemblé tes chairs*. . ." (p. 386).

In the ceremony of the Opening of the Mouth it is said :

11. "Osiris Pepi Nofirkeri voici ton Oeil, que tu as saisi," when four Mito cakes are offered to the statue (p. 366).

We thus see that the cutting in pieces, for which Unas prays, was of a much more wholesale character than that found at El Gerzeh, and closely resembling that of no. 17 from Meydum as reported in *Meydum and Memphis*, iii, pp. 15, 16, and that observed in *Deshasheh*, chap. v. We see that when Unas hoped to be dismembered he expected that :

1. His *head* would be taken from him, and that it might be given back to him, H 2, 3, 4, 5, 6.

2. His *bones and members* would be taken from him, so that a present might be made to him of what had been once his own bones, B and M 5, 6, 12.

3. His *flesh* would be taken from him, and that it might be presented to him, F 2.

After which he would *become the owner* of them, as exemplified by the head, H 7.

4. There would be need to collect his bones and members, B and M 2, 4, 9, 10.

5. There would be need to collect and rearrange his flesh, F 4, 7, 8, 9, 10, for :

6. His flesh would be in pieces, which would have to be bound together, F 8, and that having collected his bones and members that :

7. There would be need to unite them and to bind them together, B and M 2, 7, 8, 10, 11, 14, for :

8. His bones would have been in disorder, B and M 15, and that :

9. His jaws would have been separated from each other, and would need to be made rigid once more, B and M 16.

10. All the constituent parts of his body (texture) would have to be reassembled, F 8.

Each of these classes of dismemberment are recognised by the Ceremony of the Opening of the Mouth, for in it the dead man is assured that by certain parts of its ritual :

1. His head has been presented to him, H 8.

2. His bones have been set in order again, B and M 16.

3. His eye has been restored to him and made part of himself, F 11.

This last passage is not found elsewhere in these texts. It might at first sight appear that this had some indefinite meaning, and that the mourners supplied him with all they could indiscriminately ; but when we find that the eyeball was removed completely, leaving only the empty socket, which was filled with paste, as in no. 17 (*Meydum and Memphis*, p. 15), we see that this statement and ritual had its origin in a physical fact, and was intended to supply an actual deficiency in the dead body.

The inference from F 5 and 6 is that the flesh has been so utterly removed from the dead man as no longer to be any integral part of him, and that when presented to him it is only one of his possessions, just as are his panther-skin costume, his staff of office and his whip, and it is as necessary to state that he is in possession of his flesh as it is to state that

he is in possession of his other belongings, F 5, and it is just as conceivable that his flesh may be left outside as it is that his dress or staff may be left outside. In fact in F 6 the flesh is conceived of as quite a different entity to the dead man, and one wish is expressed that Merenra may pass into heaven, and then quite a separate wish that his flesh may do the same, just as is done for his clothing, to which his flesh is parallel in the pair of sentences ; in fact Merenra's flesh is here reduced to the level of his clothing.

22. From a consideration of H 2, 5, 6 it is evident that there had actually survived to the vith dynasty these ritual ideas for kings, though many classes had abandoned them in practice for different and more civilised customs. In theory it was still in the vith dynasty considered necessary to destroy the old evil man so as to give him a fresh start, pure and sinless, in the next world ; for at the time that reconstitution of the body takes place, Seb, with whom Atum is associated in the similar passage on p. 166, destroys the evil that is in it. From H 5 it is evident that the reconstruction of the body either gives, or is symbolical of, resurrection ; for in the first part of the quotation it is said that various goddesses come and the dead man does not stir ; even when the Great Modeller herself comes he does not stir, and it is only after she has presented him with his head, bones, and heart, and has collected his flesh, that he moves. Hence the moving or coming to life is the immediate result of the giving of the head, of the making presents of the bones, of the collecting of the flesh, and of the bringing of the heart. It is curious that in these early texts it is Seb who is the god of the dead ; it is he who establishes a dead man, H 2 ; it is before him that the present of the bones and head are made, H 6 ; it is he who destroys the evil which is in the dead man, H 6 ; and it is in his territory that the scattered limbs are to be found, for Unas is said to have traversed them in the search, B and M 10. This strongly shows the extreme antiquity of the ideas, as Seb belongs to the earliest stratum of the theology. He is the hereditary prince of the gods. It might be argued from a general view of the quotations that they refer generally to a freedom in the next world from the inconveniences of putrefaction in this. But if this were all there could be little or no force in the statements that the bones and the head have been presented, H 2, 3, 4, 5, 6, 8, B and M 5, 6, 12, for they must previously have been taken from him to be able to be

given back : that the flesh has been presented, F 2 : that the members have been collected, B and M 2 : that the bones have been collected, B and M 4 : that the bones have been set in order, B and M 9, 16, for though by natural decay the bones may occasionally fall apart, as a general rule they lie closely in their right places, at any rate there would be no need to collect them, for they would be all together.

23. Although these quotations would not be applicable to the results of putrefaction, they would have much force if referring to such customs as the dismemberment which has been described in the previous chapter, as the unfleshing of no. 17 in *Meydum and Memphis*, pp. 15 and 16, and as the dismemberment described in *Deshasheh*, chap. v. Moreover the quotations have definite reference to the conditions observed; as for instance the references to the head are plainly made in view of the decapitation observed at El Gerzeh in graves 67, 200, 206, 251, at *Naqada and Ballas*, pp. 19, 20, 22, 23, 24, 25, 30, 31; grave 530 reported on pp. 22 and 30 being a specially fine case.

The references to the collection of the bones and members, refer to the removal of parts observed at El Gerzeh in graves 123, 137, 138, 142, 200, 251 : at *Naqada and Ballas, N. and B.*, pp. 9, 23, 31.

The reference to the providing of an eye, refers, as has been already noticed, to the deficiency found in no. 17, *Meydum and Memphis*, pp. 15 and 16.

After the quotation B and M 11 Sir Gaston Maspero has put a note of interrogation, not because of any imperfection or doubtfulness in the text, but, as he says in the note, because from the general sense of the text this must be the rendering, although it appears strange to our ideas—until explained by recorded facts. As it stands the statement is quite decisive, and the statement about the restoration without any disorder evidently refers to such misfortunes as occurred to :

No. 206 at El Gerzeh, when his leg bones were turned end for end.

Those rearranged burials in *Naqada and Ballas*, pp. 19, 20, 22, 23, 24, 27, 32.

The iiiird-dynasty burial at Meydum in mastaba no. 17, when, in taking the head from the body, the atlas vertebra was turned upside down, as Dr. Derry has kindly pointed out to me (*Meydum and Memphis*, p. 16).

The vth-dynasty burials at Deshasheh, reported *Deshasheh*, pp. 20-23, pls. xxxv, xxxvii, and quoted below :

No. 116, when the left humerus was laid across the body away from the shoulder-blade and forearm. All as originally arranged under perfect linen wrappings.

No. 22, when the ankle bones were laid under one thigh and between the shins; when the kneecaps were laid by the hip and shin, and a few toes and one ankle bone remained loose at the foot end, but nothing was joined to the shins; and when the left hand was cut off and laid by the elbow. An intact burial.

No. 28, when his hands were cut off and laid on the chest, and his kneecaps laid lower down on the body, and his feet laid on the stomach. All inside complete wrappings.

No. 21, when her pelvis was turned back up; when her collar-bone was put at the level of her elbows, and two of her vertebrae were put above her head, and others were laid by the pelvis.

No. 27, when her ulnae were wrapped alongside of her humeri, and the left one inverted; when her spine was inverted, and her ribs were loose, and her left foot and kneecap were put in her pelvis, and the right toes were removed. All inside linen bandages.

No. 23, when her neck was mislaid, and a low vertebra was put by the neck, and when the middle part of the spine was inverted; when an ankle bone was put by the breast, a kneecap under the shoulder, the toe bones by the collar-bones, and two neck vertebrae lower down; when the ribs were all in a jumble with the loose vertebrae in the body; and when the hands were cut off and laid on the forearms. All inside perfect wrappings.

No. 113, when his vertebrae were disordered, and his ribs neatly arranged in a group, the top one being put in the pelvis; and when the radius was inverted, and the hands were laid some little distance up the forearms; and when the ankle bones were recomposed as a foot, but all out of order and without toes. All inside perfect wrappings.

No. 115, when his skull was turned upside down, and the two shoulderblades were put together in the lower jaw apart from the humeri; when his right ulna and left radius were inverted, and the breast bone and top vertebra were by the pelvis; when the ribs, vertebrae, and fingers were mixed pell-mell, and most of the vertebrae were loose; and when one thigh was disarticulated from the pelvis; when the ankle and toe bones of both feet were mixed together between the thighs as were the fingers and toe bones as well as being in the body, and by the knee. All swathed in perfect bandages.

No. 78, when an ankle bone was put on the breast; when the thighs were wrapped up in one roll with the shins and right forearm, without any hand; and when the splint bones were removed and one lost; and when the feet were gone all but the toe bones. All inside wrappings.

After reading the foregoing list, it will be readily understood that the risk the dead man ran of being restored to shape in a disorderly manner was no slight one, and that it required a workman as careful as Horus to do the work satisfactorily. It is also plain that there was considerable need for the dead man to have his head brought to him, for his limbs to be brought to him, for him to collect and arrange his bones, and for him to be firmly set up by Seb or some one else.

24. The echo of all this as it comes to us in the *Book of the Dead* has been already referred to with regard to chap. lxiii A. Other cases are:

Chap. lxiii B (Renouf, p. 116) which is entitled "Chapter whereby one is not boiled in water." Perhaps in the old days the removal of the flesh from the bones was facilitated by means of boiling in water.

Chap. xliii (Renouf, p. 101) is said to be a "Chapter whereby the head of a person is not severed from him in the Netherworld." In this chapter the deceased is made to say, "I am a Prince, the son of a Prince . . . whose head is restored to him after it hath been cut off."

Chap. clxxviii (p. 360) is entitled "Chapter of raising the body, of giving it eyes, of making it possess ears, of fixing its head, of putting it on its base."

In chap. clxiv (p. 336) it is said of the living spirits, "Their bones are sound, they are delivered from dangers."

The rubric to this chapter (p. 337) says of the man in possession of this chapter, "His flesh and his bones are like one who never died." Though this chapter is appended to chap. clxiii, which is intended to prevent a man from being eaten by worms and evil-doing gods, there is no reason against the idea having originated in the ancient and widely spread custom of dismemberment, though its meaning was afterwards applied to a danger more real than that of ceremonial cutting up had become by that time.

Whether the idea that the soul of a wicked person is consumed by evil beings is a misinterpretation of the memory of the ancient actual eating of the flesh

is difficult to say; but when a revulsion of feeling began to arise, along with a more spiritual view of the next world, it would be a very possible turn for human thought to take.

25. In view of the many recorded facts, which give force and meaning to the texts, and in view of the texts, which certify to the correctness of the recorded facts, it seems impossible to doubt but that in primitive Ancient Egypt the custom of mutilation and dismemberment of the dead held sway as it has done, and still does, in so many parts of the world; as for instance in Neolithic Italy, "in Sicily, Sweden, in the dolmens of Denmark, in the Long and Round Barrows of Great Britain, in the Crimea, in the dolmens of Algeria, possibly in France, in the *kurgans* of the province of Kiev in Russia, in Switzerland, in the Nile Valley, and at Palaikastro in East Crete." (Peet, *Stone and Bronze Ages in Italy*, p. 172; *Annual of Brit. School at Athens*, viii, 292). The custom appears to be a very general accompaniment of burial in a contracted position. (Cf. Peet, *Stone and Bronze Ages in Italy*, pp. 170 *et seqq.*) It is also found in modern times among the Latookas of the Albert Nyanza country, where the decomposition of the flesh is effected by means of a primary burial for a short time, after which the bones are dug up and cleaned, and then disposed of finally (Baker, *Albert Nyanza*, i, 209). It also occurs to-day in Brittany, where the method is the same as that of the Latookas (Pitt Rivers Mus., Oxford), and I am told it also occurs to-day in Switzerland and Greece, in which latter country the graves are only let on a short lease.

CHAPTER VI

THE IRON BEADS

By GERALD WAINWRIGHT

26. IN two unplundered and intact pre-dynastic graves in the cemetery of El Gerzeh, iron beads were found, which had all turned to rust. The graves were nos. 67 and 133, pls. iv, 1, 2, 5, xiii. From grave 67 seven iron beads were obtained and from 133 two. In grave 67 the beads came from the neck and waist, and in grave 133 they came from the hands.

In grave 67 the order of the beads from the waist is not sufficiently certain to be guaranteed, but we were able to get the necklace with four iron beads in its original arrangement of 3 gold, 1 iron, 1 gold, 2 iron, 2 carnelian, 1 gold, 1 iron, 3 agate, 1 gold, 1 carnelian,

1 gold, 1 carnelian, 1 gold, and 2 gold which were slightly apart from the others but which appeared to join in here. Both strings were in position round the skeleton, the necklace being embedded in the sand in a vertical plane. There were one or two beads at the ankle. While I cleared the sand from the neck, exposing two or three beads at a time, Mr. Bushe-Fox picked the beads off. I also checked his observations.

The objects in the grave were :

No. 6, a pear-shaped mace-head of white limestone.

„ 7, a slate palette.

„ 12, a copper harpoon.

„ 13, the strings of beads.

„ 16, a small ivory pot.

V, a vertebra out of its place in the neck, and pottery of

<i>Corpus</i> types.	Dates.
1. B 53 <i>b</i>	S.D. 40-75
2, 3, 4. R 69 <i>a</i>	53-66
5. D 7 <i>b</i>	33-63
8, 9, 10, 11. R 81	38-67
14. R 63	50-80
15. R 69 <i>b</i>	36-71
	<hr/> 53-63

It is impossible to mistake this grave for a grave of the later civilisation, known as Pan-grave, for none of the objects found in it occur in that civilisation; nor, *per contra*, do any of the very distinctive Pan-grave objects occur in this grave. The finds which distinguish a Pan-grave are cups of a thin black and red ware quite different in shape and body to the black-topped pre-dynastic pottery, bowls of a coarse ware scratched all over with a point, bracelets of strips of shell, bucrania spotted over with black and red, and damaged xiith-dynasty objects. No such objects were found in the whole of this cemetery. The skull was not articulated to the spine, but was standing on its base, packed round with the sand filling of the grave. The neck vertebra which was out of its place was at some distance from the neck, being between the upper parts of the humeri.

There were no signs of plundering, nor therefore was there a possibility of the intrusion of objects of a later date; the necklace with its gold beads was still quite undisturbed round the neck, and the beads were in their original order; all the pottery was unbroken; the copper harpoon still remained; and the skeleton lay in place on the floor of the grave.

There were no plundered graves in this west end

of the cemetery, the very few that were plundered being all on the higher ground at the other end.

The skeleton was lying on its left side, with the head to the south and the face to the west, the usual pre-dynastic position.

Prof. W. Gowland, F.R.S., has analysed the iron beads and reports :

"I have examined the 'iron' beads from the pre-dynastic grave in Egypt and find they consist of hydrated ferric oxide, *i.e.* iron rust, none of the original iron having escaped oxidation. On analysis one gave the following results :

Ferric oxide	78.7 per cent.
Combined water with trace of	} 21.3 "
CO ₂ and earthy matter.	
	<hr/> 100.0

They do not consist of iron ore, but of hydrated ferric oxide, which is the result of the rusting of the wrought iron of which they were originally made."

The tubular beads have been made by bending a thin plate of metal, probably over a rod which was afterwards removed.

In grave 133 the two iron beads are similar to the tubular beads of no. 67, but much smaller. They were found among the beads from the hands, in which no order was observable. This grave was also quite unplundered and in its original condition, covered by an unbroken coating of mud some 2 inches thick. It contained :

a palette and rubber,
a small ivory spoon,
a tiny flint flake,
2 stone vases,
beads on head and hands,
and pottery

<i>Corpus</i> types.	Dates.
R 76	S.D. 47-78
R 65 <i>c</i>	60-73
R 84	52-76
W 19	52-66
	<hr/> 60-66

It also contained a quantity of things evidently considered curious or ornamental, such as pebbles naturally polished, shells bored for suspension, and dog's teeth. This body was also lying in the usual pre-dynastic position on its left side with the head to the south and the face to the west.

In this grave, as in no. 67, none of the objects could be mistaken for Pan-grave things, nor were any of the usual Pan-grave things found. It will be noticed that the two graves are contemporary; the range of no. 67 being S.D. 53-63, and that of no. 133 being S.D. 60-66. The range common to both is S.D. 60-63. This being the case, both lots of iron beads are probably the result of a single find of iron, which must have been made between the Sequence Dates 60 and 63.

27. The question now arises as to whence the pre-dynastic people got their iron from which to manufacture the beads. The possible sources seem to be only three:

1. Trade from the Negroes or others, from whom it was obtained in a reduced state;
2. Ore, from which they reduced it themselves;
3. A find of native iron, of meteoric or telluric origin.

On consideration there appear to be insuperable difficulties in the way of accepting 1 and 2, which throw one back on 3.

The first possibility, that of obtaining the smelted iron from the Negroes, seems to be out of the question, for in pre-dynastic and early dynastic times the inhabitants of the Upper Nile Valley, as instanced by the Nubians, were in just the same chalcolithic state as their Egyptian neighbours. Their weapons were flint arrows, fish-tailed lances, stone maces, and polished stone axes (*Arch. Surv. Nubia*, I, pls. 62, 63). Moreover in the xviiiith dynasty the tribute brought by the Southerners, including Negroes and Nubians, never includes iron or iron weapons, but consists of gold, electrum, precious stones, incense, ebony, ivory, ostrich feathers and eggs, leopard skins, bows and arrows, clubs, and live animals (*Deir el Bahari*, III, pls. lxxviii, lxxx, L.D. iii, pl. 117).

Iron does not appear in the south until it is reported in Meroitic times as taking the form of mounds of iron slag, on which the temples are built (Sayce, *P.S.B.A.*, March 1911), thus postulating an important industry. Iron objects from Nubia are limited to a single needle, dating from the end of the New Kingdom, or even later, which may therefore be no earlier than the time that iron begins to become comparatively common in Egypt (*Arch. Surv. Nubia*, I, pp. 59, 60; grave 164, pl. 72 d). Hence the famous African iron-working industry does not appear to have been born till long after the days under consideration.

In considering the second possibility the main question is, were the pre-dynastic people able to obtain and maintain sufficient heat to reduce the iron ore? Although they were accustomed to working metal, it appears that copper was the only metal in general use which they required to reduce; of the others, the gold was found native, and the silver was probably reduced before being imported from Asia Minor. Therefore, to discover the greatest heat they knew of from their reducing operations we need only consider the copper and lead processes. We know that they used great quantities of malachite, a carbonate of copper, from which copper can easily be reduced by burning at a bright red heat with charcoal in a covered fire. Another very common material with them was galena, from which lead can as easily and simply be reduced as copper. Lead, however, was very rarely used, only one occurrence being reported (*Nagada and Ballas*, p. 46). Hence it would appear that for all the smelting they were likely to have done, a bright red heat would have sufficed.

The other metallurgical processes, to which they were accustomed, were the melting and casting of their gold and copper. For melting either of these metals the bright red heat would not suffice, and a greater heat—a bright yellow heat—is required, but only for a period long enough to penetrate the contents of a small crucible, which could be done in a comparatively short time. Herein lies the crux of the question, for if they were able to maintain this heat for a long time they might be able to reduce iron from its ores. To realise how far this was within their powers, it will be necessary to obtain some idea of their implements and their limitations. The monuments show us that the dynastic Egyptians until the xviiiith dynasty had nothing more effective for producing a draught in their furnaces than blowpipes, and that it took four to six men to produce the blast necessary for the melting of the metal (*Deir el Gebrawi*, I, pl. xiv, p. 20; II, pl. xix. *Beni Hasan*, II, pls. vii, xiv; IV, p. 6; *L.D.* II, pl. xiii). It was not until the xviiiith dynasty that bellows on the modern African system were first introduced into Egypt (Newberry, *Life of Rekhmara*, pl. xviii). Now the most primitive bellows must be far more effective than blowpipes, and we have much information as to what can be done with these very implements by the modern Africans and others.

We find that whereas copper can be not only reduced from its ores, but actually melted out of its

ores by one hour's use of these bellows, yet when these advanced appliances are employed on the reducing of iron in Kordofan, it takes ten hours to obtain the metal (Gowland, *Archaeologia*, lvi, p. 313). Therefore, to reduce the iron by means of the far inferior blowpipes, would take at least as long, or longer, and we know from the monuments that with these implements it is necessary to work in relays of four to six men at a time. Though it is not an inconceivable thing that by a little organization this system could be worked for a comparatively short time such as one hour, yet it hardly seems possible to maintain this effort for so long a time as ten hours, and then only to produce sufficient metal to make a few small beads. Therefore, from the question of temperature, considerable difficulty seems to arise. Not only is there this difficulty, but on consideration of the technical processes, we find that in Kordofan when, after the ten hours' reducing, iron is obtained, it is in a useless condition, and before becoming malleable has to be returned to the furnace and roasted for two hours. This is a process peculiar to iron working, and is not necessary in copper working, for the copper melts to a malleable condition after the one process. As the smelting experience of the pre-dynastic people was built upon copper reducing they cannot have known anything of this further step; hence had they after great effort reduced a piece of iron, it would have been incapable of undergoing the treatment of beating out, by which these beads have been made. It is possible that in a fit of disgust, on finding after all their labour only a lump of an unknown metal, and that useless to them, one of the smiths threw it back into the fire, hence providing the necessary second roasting, and that on raking out the fire some one again tried the metal and found it malleable this time.

But to accept such a proposition, as that the pre-dynastic people so laboriously smelted out the iron, implies that they were trying scientific experiments on all their minerals, which seems to be too advanced for a primitive people not very long in the possession even of copper. Moreover had there been any recognised and understood method of producing iron, the production, even if small, would have been continuous, and the finds would not then be sporadic, as they are. This very rarity of the finds goes to prove that there was no regular supply of iron, but that the people were entirely dependent upon chance, the source being accidental and not

artificial. Hence from the technical improbabilities of the obtaining of this early iron from its ore we are forced to inquire whether there is any other method, which would supply the metal accidentally, in a simpler manner, and more in accord with the methods to which they were well accustomed, and one pre-supposing fewer archaeological difficulties. If such a method can be found it ought to recommend itself as the beginning of the new art. With this in mind we now come to the consideration of the third proposition: a chance find of native iron.

28. Native iron is generally taken to mean meteoric iron, but meteoric iron is not malleable and cannot be bent without snapping. Therefore the method by which these beads have been made excludes meteoric iron, for all except one have been worked out into thin plates and successfully bent round a core. It therefore becomes necessary to consider the possibilities of native telluric iron, which is often supposed to be of so rare an occurrence as to be out of the question. However rare native telluric iron may be as a present source of so common a metal, it is not so very rare in small quantities, for it occurs in:

Greenland at Ovifak, Disco Island, in a large mass, and at other places along the coast.

Lake Huron on the north side of St. Joseph's Island.

California } where it occurs in the form of nuggets.
Oregon }

British Columbia, as dust.

Brazil, at Santa Catharina.

„ at Ribeira River, gold washings.

New Zealand, where it is known as Awaruite.

Germany, at Weimar in Hesse Nassau.

„ at Mülhausen.

Bohemia, at Chozen.

(Dana, *System of Mineralogy*, pp. 28, 1,038, and S. Kensington Show Cases.)

The Weimar and Disco Island iron is found in basalt.

Now, although native iron is not yet proved in Sinai, the conditions there are favourable to its occurrence, for the whole country in the neighbourhood of the mines is composed of a Carboniferous sandstone, with a ferruginous stratum, which contains beds of pure haematite, the whole of which has been overflowed by basalt. (Petrie, *Sinai*, pp. 34 *et seqq.*) Moreover we know that the dynastic Egyptians from the time of Semer-khet of the 1st dynasty onwards were in the habit of mining in Sinai for turquoise,

malachite, and copper; therefore we may presume that the pre-dynastic people obtained their turquoise, malachite, and copper from the same place, and probably also their haematite, which material abounds there.

Therefore there seems no reason against the supposition, that in one of their mining expeditions they came across a small nugget of a grey substance, which they were metallurgists enough to recognise as metal, though of a peculiar sort. They would then bring it home as a curiosity, and work it up into beads along with their other precious metals, such as gold. They would be able to beat it out and to work it up easily with the appliances of which they were in possession. This hypothesis pre-supposes no archaeological difficulties, as do the other two, and therefore must stand as the most probable one.

29. The exceeding rarity of native telluric iron corresponds with the exceeding rarity of worked iron in ancient Egypt before about 900 B.C. The only specimens of iron known are:

Pre-dynastic beads S.D. 60-63, here described.

ivth dyn.: a piece found in the inner joints of the Great Pyramid (Vyse, *Pyramids of Gizeh*, I, p. 275).

vth?: several pieces of a pickaxe from Abusir (*Guide du Musée de Boulaq*, 1884, p. 296).

vith: a lump of iron rust, perhaps a wedge (*Abydos*, II, p. 33).

xiith: a spearhead (MacIver, *Buhen*, pl. 88).

xviith: a point of a chisel, broken;
a ferrule of a hoe-handle.

both from Mohammeriah near Esneh (*Guide du Musée de Boulaq*, 1884, p. 296).

xviiiith: a stud from a box; a finger ring.

both now in the Ashmolean Museum (no provenience).

a sickle found by Belzoni under a sphinx, apparently of Horemheb, in the avenue leading from the temple of Mut to the temple of Karnak.

Now in the Brit. Mus. (*Cat.* 1850, p. 226); (Belzoni, *Travels in Egypt*, vol. I, pp. 235, 236, 252, 253); (Mariette, *Karnak*, plan); (*Baedeker*, plan of Karnak.)

xxth: a halbert probably of the age of Rameses III (*Abydos*, II, p. 23.)

3 iron knives of Ramesside date or later (*Ramesseum*, p. 13).

a needle from Nubia of about this date or later (*Arch. Surv. Nubia*, I, pp. 59, 60, pl. 72, d.)

These occasional finds of iron down to the xviiiith-dynasty, when Egyptian metallurgy underwent a great change, were sufficiently rare for the metal to be looked upon as precious and ornamental as well as useful. The fact of the earliest piece of iron being of telluric and not of meteoric origin, militates against the theory, that the name *bia-ne-pet* (Stone of Heaven), which was later applied to this metal, originated in the first iron being obtained from meteorites. The probability of the iron being found in a haematite district, however, suggests the possibility of its gaining its name by confusion with haematite. The haematite was used for cutting into figures in a black metallic-looking state, and the iron would be found with, and look like it, and to the ignorant observer would only differ from it in being malleable.

This theory of the failure to distinguish native iron from haematite pre-supposes that the name *bia-ne-pet* was originally that of haematite. It is probably used in this sense in the Great Harris Papyrus, which mentions large numbers of statuettes of this material; yet no statuette of iron has ever been found in Egypt. That *bia-ne-pet* was originally the name of haematite is not yet proved; however, the name occurs commonly throughout Egyptian texts and is therefore more likely to be the common haematite rather than the rare iron.

CHAPTER VII

THE NEW TYPES OF POTTERY

By GERALD WAINWRIGHT

30. Pl. ix. The Red Polished ware (P) presented many new shapes. The open bowls were far shallower than were those of Naqada and Ballas. Nos. 100 *a* and *b* had never had their polishing finished. 100 *a* was a pot of R pottery quite rough, but the surface was painted all over with red paint. The operation had not been finished, for the lumpiness of the surface was not smoothed down, and the paint remained unburnished. P 100 *a* was made of a finer pottery, which was straw bound, and had been smoothed over and painted. The paint appeared to have been burnished over just once and left, as the surface was not evenly burnished, but slightly so in lines about $\frac{1}{16}$ inch wide running up

and down the pot roughly parallel one with the other, and separated from each other by a strip of unburnished pottery.

The Decorated ware (D) presents sundry variations of the old ornamentations. Neither of the boats on D 43 *b* has any standards, which is new to us. D 44 shows a Z-shaped standard on one side, while on the other is another standard, as will be seen in the extended drawing pl. xii, 2. It is curious that this Z standard should appear to be invariable, but that the boat on the other side of each pot bears a standard which is variable and may be one of any of the well-known signs. This will be observed again in pl. xii, 1; and no. 3 is the *vis-à-vis* to the Z standard on a pot from grave 144. The oblong net or sail pl. xii, 1, is new both as to shape and in the absence of the pole to which these objects are generally attached.

In many of the vases from Naqada and Ballas, which have tubular handles, the cylinders of clay through which the hole is bored, are concave on the outside. This feature was not found on any of the shapes from El Gerzeh, which had this form of handle. Nor is it found on the stone vases with tubular handles, as it was at Naqada and Ballas.

Pl. x. The pottery with a rough surface (R). The deep vases of this quality were evidently made by building up the clay in sections, the height of each section being regulated by the length of the maker's fingers. The fingers were evidently pressed into the lump of clay and turned, so forming the interior of the vase, while the thumb was moved round the outside to smooth it over. When the walls had risen to the bend between the first finger and the thumb, *i.e.* to the height of 4 or 5 inches, the incipient pot was left to dry; after this another section of the same height was moulded on to the dry part, and was again left to dry, repeating the process as often as necessary. Finally a small roll of clay was clapped on the top, and moulded into shape by the bent fingers on the inside, and by the thumb on the outside. The joint of the dry and new wet clay was neatly smoothed off on the outside, but on the inside was left rough, and often there are great rolls of clay overlapping the lower section, showing how the wet clay had been pressed on to the dry. The rims are of many shapes, but some parts of the thumb will generally fit the curve. In accuracy they vary from a rather rough result to one which almost seems from its precision to be wheel-made. It is probable therefore that the pot was turned

round on its own base, which was dry and hard, the slow wobbling movement of the pot producing corresponding wobbles in the rim. This kind of method has perhaps been used at Phylakopi in Melos and other places, where many of the vases bear the marks of a small mat upon their bases. It has been suggested with much probability that the vases have been turned upon this mat as a base. This system is also employed in S. Nigeria, where a broken pot is used as a base. *Man.* 1910, no. 53. This process is known as the *slow wheel*, and would form a natural precursor of the potter's wheel, which does not occur on the monuments in Egypt until the xiith dynasty.

Types R 42 *d* to R 44 *d* appear to have been the cooking pots, for the great majority are thickly covered on the outside with soot and smoke stains.

At the bottom of pl. x is a little group of types, which have the forms of the stone vases and are always coloured dull black. They are therefore probably small imitations of black basalt vases. Next to these is a group of little lumps of mud pinched up into a resemblance of vases. They were found in great quantities, and vary from mere lumps of mud without an appreciable hollow to fairly good models such as nos. 2 and 5, which will be found in photograph, pl. vi, 11.

Pl. xi. Most of the Wavy-handled pottery (W) was slightly smaller in each case than the examples of those types which were found at Naqada and Ballas. Here again we get small models, nos. 42, *b, c, d, e, f*. The four small vases grouped as Late pottery (L) have been so classed on account of their shapes, which do not occur in any other class, though the clay of which they are made is the same as that of the W pottery.

31. In the Fancy forms (F) nos. 32, *a, b, c, d, e, f* are of red polished pottery, but of flattened form. They differ from specimens of this type from Naqada and Ballas in being much less elongated in form, and as a rule being flatter. No. 46 *b* was a broken double vase from grave 87, of which one half was missing, but the junction was left on the part found. It is made of a very peculiar clay of a brownish grey colour and very soft. The clay is bound with a dark sand, and contains a few little red specks and a great quantity of large chips of grey limestone. On comparison with the material of the Tell el Amarna tablets this clay is found to be identical in colour, binding material, and the grey limestone chips with that of a small group of tablets, nos. 39, 50, 52, and

55, all of which are totally different in these respects from any other tablet, and which all come from the same neighbourhood—South Palestine—no. 50 having been written by Yapakhi of Gezer, no. 52 by Widya of Askelon, no. 55 by Pu-adda of Urza, and no. 39 by Shubandi, whose city is not mentioned. Hence we may safely assume, that this vase 46 *b* was actually made in South Palestine of S. Palestinian clay, and imported into Egypt between S.D. 50–70. Pottery precisely similar in every detail is found again among the ist-dynasty potsherds from Abydos, now in the collection at University College, London. This S. Palestinian origin is in accord with the affinities, in the shape of the wavy handle, between the pre-dynastic Egyptian pots and the much later Amorite pottery found at Lachish, dating to about 1600 B.C. (Petrie, *Tell el Hesi*, pl. v.).

No. 100 is quite unique and evidently of foreign origin, recalling some of the handled mugs of the North Mediterranean. For while the handle is absolutely foreign to Egypt and Africa, it is found commonly in Europe from the neolithic times (Peet, *The Stone and Bronze Ages in Italy, passim*), and although this actual pear-shape does not seem to occur quite so early, it is a very common type in the Lake Dwellings of the early bronze age (Peet, pl. iii), and an approximation to it is found in the neolithic and enolithic ages (Peet, pp. 126, 202, figs. 39, 74). Not only is the shape of this pot entirely foreign to Egypt, but also the clay of which it is made. The clay itself is of a reddish colour, and has in it a number of white, black, and dark red specks: it is painted with red stripes. On looking round for analogous shapes and textures, one finds both only in the Cretan pottery of Early Minoan II and III periods. In this pottery precisely similar clay is used, and shapes of the same type are found. The example most like it, on view in the Ashmolean Museum, is rougher in its shape than this one from El Gerzeh, and not so bulbous, while the rim, instead of being horizontal, is raised a little higher on the side opposite the handle: moreover the Cretan examples are unpainted. However, these and the Egyptian specimens all belong to one family in shape, and are identical in the clay used in their manufacture. We can therefore only surmise that this pot was made in Crete in neolithic times, and exported thence to pre-dynastic Egypt, in spite of its being painted in a manner foreign to what we know in Cretan pottery.

Of the pot marks there is nothing to note, except

that they were remarkable by their scarcity, only seven having been found out of a courtyard full of pottery. No. 4 was painted on in red, and no. 7 was dug into the clay while it was still wet. The others were scratched on the hard pot.

CHAPTER VIII

OBJECTS FOUND IN THE PRE-DYNASTIC CEMETERY

By GERALD WAINWRIGHT

32. NUMEROUS objects were obtained besides the pottery. Many types of the pottery were smaller than those found at Naqada and Ballas, and the same diminution is seen in the objects of luxury; as for instance, many of the stone vases, the flint flakes pl. viii, 25, which are just half the size of those figured in *Diospolis Parva*, the ivory spoons pl. vi, 9, viii, 30, 31, all of which were much smaller than those from Naqada and Ballas. The people seemed very fond of models, for we found various tiny stone vases, those in pls. iv, 3, viii, 7 being merely dummies. As before mentioned, there were also numbers of little mud models of vases (pl. vi, 11, x) and little pottery models of stone vases (pl. x). No weapons of any sort, apart from the single mace-head in grave 67, were found, neither fish-tail lances, arrowheads, or copper daggers, and only one hunting implement—the copper harpoon, also in grave 67. Nor were any human-headed tusks, or pots full of beetles found, nor any dogs' burials. Not a single piece of leather was found, though it is a common material in the South, those bodies that were covered being wrapped in woven cloth or reed mats.

The Stone Vases. The stone bowls were very dainty in shape, this being largely the result of their thinness and the very small base to which they were worked (pls. vi, 6; viii, 17, 19). The pointed vases pl. viii, 12, 13, 14, are new. Their range is S.D. 57–60, 63. No. 12 is of a beautiful grey shelly limestone, the others are of a hard white limestone. The finest tomb group was no. 142, consisting of seven vases. It is shown on pl. vi, 6. From left to right the materials are: top row, black and white granite, white limestone 2, grey and white granite; bottom row, black and white granite, grey and white granite, grey basalt. The whole group is now in the Brussels Museum. The stone vases were made of the following materials: grey

and white granite, a brilliant black and white granite, black basalt, grey basalt, black and white porphyry, pink limestone, hard white limestone, the local soft yellow limestone, a very beautiful grey shelly limestone, brown alabaster, and dark serpentine.

Beads, etc. Most of the graves produced at least a few beads. They were worn on the head, with bunches over the ears, or as a fillet running round the forehead, and on one occasion this fillet had a small loop hanging from the centre of it. They were naturally worn round the neck and on the wrist, and very occasionally on the ankle, and in a string round the waist. From the great number of beads found among the bones of the hands, it is probable that they were also worn on the back of the hand. Although so large, beads no. 122 are from the hand. No order was observable, but there appeared to be a number on the back of the hand, with a string running up each finger. They are of black serpentine. Pendants were much worn, being naturally polished pebbles mostly of sard or carnelian bored at one end. They were on the forehead in grave no. 20, on the pelvis in no. 75, at the back of the neck in no. 151, and at the wrist in nos. 57, 59, and 279.

The groups of any importance are shown full size in pl. v. Their materials from left to right are:

No. 75. Burnt chalcedony, sard, burnt chalcedony, carnelian, burnt chalcedony.

No. 205. Green steatite, serpentine, calcite, white limestone, serpentine 3, green steatite.

No. 55. Glazed limestone, lapis lazuli, carnelian, lapis lazuli, sard, gold, lapis lazuli, gold, lapis lazuli 2, gold, lapis lazuli, gold, glazed limestone, lapis lazuli, glazed limestone, lapis lazuli, glazed limestone.

No. 90. Carnelian 3, glazed limestone 2, turquoise, carnelian 2, calcite, carnelian 2, burnt chalcedony, sard, glazed limestone, carnelian 3, glazed limestone, carnelian 2, glazed limestone, carnelian, glazed limestone 2, sard, turquoise 2, glazed limestone, carnelian, sard.

No. 58. Six calcite, 1 limestone in the middle.

No. 142. Garnet, lapis lazuli 16, black steatite 2, carnelian 2, glazed limestone 10, carnelian 11, glazed limestone 10, sard 3, black steatite 2, lapis lazuli 15, garnet.

No. 80. Order certain. Gold 4, white limestone, gold, white limestone 3, gold 3, white limestone, gold 3, white limestone 4, lapis lazuli 5, onyx, white limestone 3, sard, gold 3, sard, white limestone, gold 2,

black steatite, carnelian, sard, gold 2, white limestone, gold, lapis lazuli, white limestone.

No. 122. Serpentine.

No. 206. Alternate groups of carnelian and serpentine, and four groups of garnet in the middle.

No. 229. Discs, serpentine; cylinders, etc., serpentine 8, sard 6; amulet, gypsum; cylinders, etc., sard 6, serpentine 10; discs, serpentine.

No. 80. Order certain. Turquoise 2, onyx, quartz, onyx 3, sard 3, brown agate, carnelian 2, sard, brown agate, sard 5, calcite 2, sard, lapis lazuli, quartz, calcite 2, sard 2, lapis lazuli, quartz 4, turquoise 2.

At the foot of the plate are shown the spiral gold beads of no. 55 magnified to double size, also a selection of the pendants from no. 75, and the two fly amulets from no. 205.

33. *The Palettes.* The new shapes will be found on pl. xii. They were all made of slate, except 6, which is of black granite, and 5, which is of black and white porphyry, as is its rubber, though of a different quality (pl. vi, 8). This is very small, thickish, and nicely worked, and its rubber is about as large as itself. It was found in grave 203; S.D. 52-66. No. 6 is of heavy workmanship and is peculiar in not being bored for suspension. Nos. 8 and 9 probably represent birds. Nos. 2 and 7 represent tortoises. The hollow produced by the rubbing of the pebble was very distinct on many of them, and many also retained considerable traces of malachite. The most interesting of them was that from grave 59. It is shown on pl. vi, 7, carved on the one side and bearing on the other distinct traces of malachite rubbings. It is bored for suspension. The design appears to represent a cow's head, ornamented with stars. It may therefore represent Hathor in an astronomical aspect. All the stars except one are five-pointed, as are the stars of the historic Egyptians. The exception may have been given its sixth point merely to raise it from the rest of the design and to make it stand out from it. The two projections below the horns no doubt represent the ears, the openings of which are shown by the hollows bored in them. The design should be compared with pot-mark 116, pl. liii, *Naqada and Ballas*, which appears to represent the same object minus the stars. This pot-mark has no Sequence Date. Unfortunately the accompanying pottery was all of the commonest types, hence it is not more closely dated than to the range S.D. 47-77; that is to say, to the second age of the pre-dynastic civilisation.

The Flint Knives. Five of the very finest work

were found. Specimens of this class are shown on pl. vii, 12. The range of this type at El Gerzeh was S.D. 57-65. The rougher quality occurred in 3 graves. Specimens are also shown on pl. vii, 14, 15, and the range of this type is somewhat earlier, being S.D. 53-64. The tiny flakes pl. viii, 25 were found in sixteen graves, as many as twenty-eight being found in one grave. No forked lances were found. The two knives nos. 22 and 23, pl. viii, are dated no. 22 to S.D. 55-57 and no. 23 to S.D. 53-66. No. 23 is shown in photograph at the bottom of group 12, pl. viii.

Ivories. In this material were found the beautiful little spoons pls. iv, 1; vi, 9; viii, 30, 31. These are far finer than those found at Naqada and Ballas, being not more than 3 inches long. Only nine hair-pins were found, all of very plain types. Those which differed from the types already known are figured on pl. viii, nos. 32, 33, 34, 35, of which no. 32 is shown in photograph, pl. vi, 9. No combs of any description were found, unless the much broken piece of ivory alongside the palette in the tomb group 133, pl. iv, 1, should be one. In grave 88 was found an ivory pointed piece similar to that shown in pl. vi, 11, which comes from grave 81 and was found inserted in the rod as shown. At present it is not possible to say of what this rod is composed; it is whitish grey, quite light, and hard and solid. At first it appeared to be *kohl*. It was found with a child lying near the owner's head upon the shell pendant, which is figured beside it. Just beyond it was lying a large nacreous shell. We found many of these, but no evidence was forthcoming as to their use, though probably they were used for holding paint, as in dynastic times. Both of these pieces of ivory had a notch round the butt as shown. The range of both is S.D. 43-70. In grave 67 was found the small ivory pot hollowed out of a single piece. It is figured in pl. iv, 2, with its tomb group S.D. 53-63. None of the tusks with a human head upon them were found.

34. *Pottery Horn.* This curious object, of which two views are given in pl. vii, 13, was found in grave 20. It was held in the hands of the deceased close against the face, with the top against the nose, the butt by the shoulders. With it were found a tiny ivory spoon and a limestone vase. There were two pendants, one of carnelian and the other of agate, on the forehead of the skull. There was a pair of ribs of an ox or some other large animal in the grave. The pottery dated the grave to S.D. 58.

This object represents a cow's horn with a cow's head on the top. It is made of polished black pottery, 7 inches long; plain white disc beads are inserted as eyes. It is completely closed, except for the hole in the front and a tiny hole about $\frac{1}{16}$ inch in diameter in the back, opposite the large hole. This small hole is just visible in the side view of the horn. There was a plug exactly fitting the large hole, and this plug was bored with a small hole, similar to that at the back of the horn. It therefore seems as if a string was originally fastened through the plug, and then passing through the large hole passed out at the back through the small one. This string would serve to pull the plug up into place, and would also serve as a loop by which to carry the horn, the tension on the string serving to keep the plug in place; something on the same principle as the Japanese *Inro*. Alongside of this pre-dynastic pottery horn here shown is no. 14, a modern Basuto snuff-box, belonging to Mrs. Kendall, Winterbourne Bassett, and made of an actual horn. It shows the hole in front, which was presumably stopped with a plug of wood. A hole is bored for the string below the head, hence the mode of suspension is quite different, and there is no need for the little hole at the back, which is therefore lacking. It is also ornamented with a head on the top. This head is apparently bovine, representing that of a hornless cow. The projections at the side more probably represent ears than horns; the two nostrils are shown, but no mouth. Thus there is great similarity in appearance, and therefore probably in use; and as the Basuto specimen is used for carrying a powder (in that case snuff), we may legitimately suppose the pre-dynastic specimen to have served a similar purpose, though, curiously enough, there is no sign of such powder remaining in the roughnesses of the inside.

35. *Various Objects.*—A single marble, $\frac{1}{2}$ inch in diameter, was found in each of the following graves, nos. 39, 80, 277, in each case the grave of an adult. In grave 277 the marble was found in a polished red bowl along with a small disc of stone, a shell, and a small vase. The marble from grave 39 is of white limestone; that from 80 of grey granite. From grave 116, which was the grave of a child, came a set of eleven marbles, consisting of six large ones $\frac{1}{2}$ inch in diameter, made of grey granite, and five small ones $\frac{1}{4}$ inch in diameter, made of white limestone (pl. iv, 4).

Nine of the *forehead pendants* were found, of which the new shapes are figured on pl. viii, nos.

26, 27, 28, 29, and another in photograph pl. vi, 11. They were all made of shell, and all plain except no. 26, pl. viii. No. 28 is probably a broken one touched up for the use of the dead, as it is very small and has no hole for suspension, as have all the others. There was no clue given as to their use, for they were not found in any special position in the grave, but never far from the head.

In 30 the specimen was behind the head ;

55, near the face ;

72, beneath the back of the head ;

82, in front of the chin ;

in the other five cases the specimen was merely at the head end of the grave. A small *pesh-ken*, pl. vi, 10, and a tiny basket of galena were found in front of the hands in grave 21. The blade of the *pesh-ken* is of dark green noble serpentine, and is sharpened on the two inner edges. Though serpentine will not take a sufficiently good edge to cut, yet perhaps it may have been used for toilette purposes, as it was found with the galena, from which the face-paint was no doubt made. S.D. 59, 61, 63.

In grave 185 a small flake of *obsidian* was found. In reply to a query as to whether the obsidian most resembled that from the Lipari Islands, Aegean Islands, or from Abyssinia, the Mineralogical Department of the South Kensington Museum reports that it resembles the obsidian from the island of Samos more closely than any other variety. This is one more piece of evidence in favour of the Asia Minor trade, the existence of which had already been deduced from the presence of silver and emery in Egypt. For, of the known sources of emery, Smyrna is the one nearest to Egypt, and silver is not known to occur nearer than Asia Minor, which country produces it in large quantities. The sequence date of this piece of obsidian is 43-70, *i.e.* somewhere in the second pre-dynastic age.

Copper Tray. Pl. viii, 24. This was found in grave 145. It is quite circular and is $\frac{3}{8}$ inch deep, with perpendicular sides. It had been wrapped up in cloth. With it were found the ivory spoon no. 30, the hairpin no. 35, the two small stone vases nos. 8, 14, pl. viii, and the palette no. 9, pl. xii, with its pebble, and pottery dating it to S.D. 55-57, including the new shapes P 16 b, 77 c, 81 c, and B P 3, pls. ix, x.

Rattle. Pl. vi, 11. The rattle is of pottery, and the pellets were baked inside, as there is no hole in it by which they could have been inserted afterwards. Each of the ends is drawn out into a solid

lump, by which it can be held without deadening the sound. It was found in a child's grave, no. 27, S.D. 51-63.

CHAPTER IX

THE WORK AT MEYDUM

By GERALD WAINWRIGHT

36. AS soon as I had settled into the former season's hut, I started by clearing off the 4 metres of blown sand which lay above the foundations of the brick walls discovered last year, which showed the position of the lower temple. Fortunately, by the time the superincumbent sand was cleared off, the water level was low enough to enable us to examine the ground at the level of the bottom of these brick walls. We traced along the wall running east and west and found the angle again as shown in pl. ii, *Meydum and Memphis*, and were in hopes of picking up the broken wall a little further to the south ; but though we cleared the whole of the area south of the east and west wall, and east of the great boundary wall, we were unable to find any trace of it: nor were we able to find any corresponding angle formed by a wall running out east from the great boundary wall. Had we discovered one, we should have been able to conjecture the size of the temple, but as it is we are left in an uncertainty. Inside the area, at the level of the foundation of the walls, were found various small pieces of red granite and alabaster, also some fragments of Old Kingdom pottery, which agree with the foundation deposits of Old Kingdom pottery found last year at the corners. By digging pits close together, and by baling out the sand and water from one into the neighbouring finished one, we were enabled to get down the remaining six feet below the water level, and to explore the whole surface of the marl, which here forms the bed of the desert. However, nothing whatever was produced from these levels. Hence we must conclude, that at the time of Sneferu in the iiird dynasty there was a layer of sand about six feet deep on the rock, and that on this he built some sort of a small temple ; though it is hard to see where the east and south walls have gone leaving so little trace. Yet if there were originally decorations in red granite and alabaster, they also have utterly disappeared, leaving only half a dozen small fragments to bear witness to their former existence. That there was a building here of some sort, is evident by the foundation

deposits reported last year, *Meydum and Memphis*, pl. xxv.

37. On resuming work at the Pyramid, we were able to tunnel through the successive coatings of masonry at the mastaba angle, which go to make up the body of the Pyramid. These were all found one after the other, as deduced and drawn in the plan *Medum*, pl. ii. Also it was satisfactory to be able to verify the correctness of the view, there propounded, as to the probable existence of another face inside the uppermost, that is now visible from the outside. On coming to this eighth of the inner faces, we exposed a considerable surface, and found that it was banded just as are those that are visible higher up; the system being to lay a number of smooth courses and then to build another coat outside this structure, raising it to the top of the prepared face; a thick platform of masonry was then laid over the whole, breaking joint with the prepared face. On the top of this platform, which had now been covered in on all four sides and the top, the prepared face was once more carried up in the plane of that inner one far below. Though these prepared bands in each face are all in the plane of those above and of those below, yet there is no connection whatever between any given one and that above or below it, which seems to be a very remarkable feat of construction. This is well illustrated in *Meydum and Memphis*, pl. i, 2, which gives a view of the pyramid. Here the two rough bands, which intervene between the prepared bands, are the remains of two of these thick platforms which happen to have been cleared away to the plane of the faces, but these rough bands are really in no connection whatever with the prepared bands. There were signs of this system having been employed in building the fifth, sixth, and seventh mastaba faces, but it would have been far too laborious an undertaking to clear large surfaces on each occasion, as we intended to do this at the eighth face, when it was found. No doubt the same system would have been found in the second, third, and fourth, but as we passed under their foundations, we were only able to observe their positions without examining their faces and structure. After examining the face of this eighth coat, we continued inwards, and at 192 inches we found another similar face, and again another at 398 inches. These have now been added to the section of the pyramid, and will be found on pl. xiv of this volume. It is noticeable that the ninth of these faces meets the groundline of the finished pyramid exactly where

the passage passes it. Another coincidence is, that the south wall of the chamber is exactly half-way between the base of the innermost face and the axis of the pyramid. This is not likely to happen by chance, nor by bad workmanship, but the chamber was evidently built just out of the axis by design, as are the chambers built in the masonry of all the other pyramids except one in the north stone pyramid of Dahshur. In this case, however, the three chambers are so crowded together, that one was obliged to be in that position. The chambers in the three great pyramids of Gizeh, which are immediately under the apex, are all subterranean. It is therefore evident that the chambers in the masonry are built out of the axis, not because of inability to find the axis, but because of a wish to avoid the direct pressure of the superincumbent mass, and as this necessity is absent below the level of the rock, no fear of an axial position is then shown. When the pressure-resisting power of a pent roof had been discovered and used by Khufu, who, nevertheless, safeguarded his new system by building his chamber in the supposed safer position, out of the axis, it was followed by later pyramid builders, who were then not afraid to put their chambers, so roofed, immediately under the apex. Although we continued our tunnel another 254 inches from this tenth face, yet we did not find another. Therefore the tenth mastaba face represents the original size of the building.

38. In the mastaba of Nefermaat we cleared all the masonry out of the passage leading from the tomb chamber to the original entrance. This passage proved to be 135 inches long and to have been entirely blocked up with prepared stones fitted and mortared together. The care with which this work had been done stood in strange contrast to the havoc in the funeral chamber, which the builders were solemnly building in. At the end of the passage stood a wooden door, pl. xvi, 1. It was not a hinged door, but was composed of two thick planks fastened together by countersunk crosspieces. On either side of it stood two wooden door jambs, and to secure it in place a great wooden beam 16 inches thick was let down on to it. On the top of this beam was more masonry of prepared stones mortared together. The door was 28.75 inches wide.

We also continued the search for the chamber of Atet in the north end of this mastaba, and were fortunate before long in finding the well. Atet's chamber had never been entered from the day on

which it had been sealed up, any more than had that of her husband Nefermaat. Her chamber is entirely different in design from that of Nefermaat. Instead of being a stone chamber built in a great rock-hewn pit, it consists merely of a large chamber hewn out of the soft marl, without even a stone lining. The workmanship was of the roughest, the walls never having been smoothed down in any way, nor were the angles at the corners neatly cut out, but all was left just as originally hewn. The error of squareness is very great, the width at the north end being 139 inches, but at the south end 162 inches. In the N.W. corner was left a small bench 42 by 29 inches square. The chamber was reached by a deep well ranging from 69 to 72 inches square. The bottom of the well is 36 inches above the floor of the chamber, and the mouth of the chamber was closed by a great stone portcullis, pl. xv. The portcullis stone presented an unusual feature in the three holes at the top for the ropes with which it was let down. These are 4 inches in diameter, and on the outer, or north, side there is a slot running from each to the top edge of the stone. The stone was apparently let down from the north side, as we found the remains of a wooden beam running across the north side of the well, and the slots were no doubt intended to prevent the rope rubbing on the beam in its passage over it. The stone also had two slots cut across its bottom edge, and so was apparently supported by ropes passing under it, the slots allowing the ropes to be drawn out from underneath when the stone was standing in position, pl. xv. The stone was considerably higher than the chamber, and was not let down in a groove, but was leaning against the south side of the well. The whole roof of the chamber had broken away from just above the top of the stone; this was no doubt due to its pressure forcing the great mass right off. In the corners of the chamber itself just a few square inches of the ceiling remained, enough to enable the original height to be measured, but in the doorway not even so much as that remained, so that the height of that part had to be dotted in the plan.

A great deal of the mud which had been poured into the well as a filling, had run into the chamber, as in the case of Nefermaat. In this mud was found all that remained of Atet. She had been far worse treated than her husband, and had been smashed to chips. No piece of bone more than a couple of inches long was found in the tomb. Only one perfect pot was found, all the rest being broken—mostly

to tiny fragments no bigger than the bones. Such as were perfect enough to be drawn will be found on pl. xvii. Pieces 7, 10 and 11 were found outside the chamber in the well; nos. 7 and 10 in the filling at about the level of the top of the stone portcullis, and no. 11 right at the bottom of the well. Nos. 7 and 11 were slightly burnt inside as if by incense, and no. 10, and another similar pot which was found inside the chamber, had ashes in them. These ashes were just like the ashes from the pre-dynastic cemetery, for they contained quantities of burnt halfa grass, and burnt sand and earth, which last came no doubt from the hearth. No. 12 was found in the chamber, and contained plaster. Although 2 is so rough and badly made by hand, yet the rim is so well made as to seem to be wheel-made, no doubt the result of the process described under the pre-dynastic pottery in sect. 30. Nos. 3 and 4 show the same perfect neck, but have been smoothed on the body by scraping with a knife. Nos. 3, 4, 5, 6, 8, 12 and 13 are painted red with haematite, while nos. 1, 7, 11 were painted with haematite and polished in the pre-dynastic style. The clay of 4, 6, 12 was exactly the same as that of the pre-dynastic Rough-faced pottery. The body of 1 was a fine close clay bound with straw. 10 was of friable, thick pottery, badly baked and very crumbly.

Apparently no coffin had been used, as no scrap of wood was found. In this, her burial resembled that of Ranefer, and not that of Nefermaat, in whose tomb broken-up wood was found. In the plan pl. xv it is noticeable that Atet's chamber, though much more nearly oriented than was Nefermaat's, is yet not truly in line with the axis of the mastaba. This plan shows exactly half the mastaba, and will, with the half published in *Meydum and Memphis*, pl. iii, make up the complete mastaba.

39. The xviiiith-dynasty cemetery near El Gerzeh proved to have been made during the middle of the xviiiith dynasty, for a very coarse seal of Thothmes III was found, and a well-made cowroid of Amenhotep III, both from grave 75. Though no royal names of the xixth dynasty were found, the cemetery seems to have run on to that date by the objects which were found in it. It had been completely plundered, and was re-used for burials in the xxiind dynasty, but these later occupants fared no better than the first, for they also were plundered. These secondary burials in the sand filling produced a few amulets of the class usually assigned to the period from the xxiind to the xxvith dynasties and two named

scarabs, pl. xx, nos. 10 and 11. No. 10 bears the name of Shishak II, the fifth king of the xxiind dynasty, and no. 11 bears a private name, Pedubast. This name occurs as early as Osorkon II, his predecessor. The secondary burials are therefore well dated to the xxiind dynasty.

These xxiind-dynasty burials had largely been made in pottery slipper coffins, into which the body had been inserted by a hole left in the top side, at the head end. This hole was covered by a lid with a face and hands moulded on to it, and then cemented down. Some of them had a small hole in the end at the feet, and in general much resembled the Parthian slipper coffins. They were, however, badly broken up. In the shaft of grave 45 was an enormous mass of bones of sheep and of the *Lates niloticus*.

40. *Description of Plates.* Pl. xvi, no. 3. A group found in grave 78. From left to right the vessels are: a bowl of local yellow-brown limestone; a serpentine vase in the form of a *hes* vase in its ring stand; a serpentine bowl. On the lower row are a wooden *kohl* pot; a pottery vase of foreign shape; an alabaster toilet spoon of coarse thick work; an alabaster vase with two ear handles, and a bronze mirror. Below are the two scarabs, one with its electrum ring still intact, the other without its ring, but mounted in electrum. The scarabs are drawn in black and white full size on pl. xx, nos. 4 and 5. Of the *alabasters*, those marked 61 were found together, but with nothing else beyond a plain silver ring. No. 69 was found with ordinary xviiiith-dynasty pottery, and no. 20 was found with amulets of the red and grey-blue faience, so distinctive of the time of Amenhotep III and Akhenaten.

Clay Models of Women. The two in coffins both came from grave 9. Each is laid in its mud coffin with a cover, and one is wrapped in cloth. They are made of unbaked mud. They are no doubt comparable to the naked pottery faience and clay female figures of the xiith dynasty, and also to the wooden models, laid on beds, of the same period. Seeing that king Neb-hapet-Ra in the xith dynasty had his concubines buried under the floor of his funerary temple (*The xiith-dynasty Temple at Deir el Bahari*, pp. 48, 50, etc.), we can only recognize these models as the survival of the old custom. The other two no doubt originally also had their coffins.

Pl. xvii, *Atef's pottery*, has already been described in sect. 38.

No. 14 is the inscriptions on the back of the Ptah-seker-ausar figures of pl. xxii, 11. No. 15 is

a knuckle-bone carved out of ivory. It would naturally be supposed that this was of Roman date, but if so it would be the only Roman thing found on the site; on the contrary it was found with the alabaster bowl no. 16 of xviiiith-dynasty shape, therefore we must suppose that the knuckle-bone is of this date also, but unfortunately nothing else was found with it. No. 17 is a small *ba* bird of alabaster; with it was found a cylinder bead of yellow paste. No. 18 is of alabaster.

The next group shows the xviiiith-dynasty handled and foreign pottery. No. 26 is painted in red and black; though it is of the native Egyptian *hes* shape the decoration is distinctly of Syrian derivation. Nos. 27 and 28 are painted in red lines. No. 29 is of a hard reddish clay, and buff coloured on the outside. Nos. 30 and 31 are of the usual fine black ware. No. 32 is of bright red polished ware, and no. 33 is drab coloured and dully polished.

On pl. xviii nos. 34 and 35 are made of a fine red clay and this type always has a well in the centre. This well and its edges are generally covered with soot stains; possibly they are incense burners. No. 39 is made of a thick hard body with an appearance of a slight glazing. It has a lip pinched in the side, and is thickly covered with soot round the edges. It is therefore probably a lamp. It was found with beads and pottery of the xviiiith dynasty. No. 51 had a hole in the bottom much like a modern flower-pot, perhaps it may be for pressing out oil or some other liquid such as buzeh beer. Nos. 52, 53, 54, and 55 are little conical vases painted white on the outside, and 54 and 55 had a very small and irregular perforation through the point at the bottom.

Pl. xx, nos. 13 and 14 are two broken up steles of the xviiiith dynasty. No. 15 is the inscription from a canopic vase of limestone, also of the xviiiith dynasty.

Scarabs, etc. No. 1 is a stamp bearing the name of Thothmes III. It is of very coarse bad work, and of a bad blue glaze. It was found with the scaraboid no. 8 of Amenhotep III, which is of blue-grey glaze. No. 2 shows a curious development of the lotus and bud ornamentation. No. 3 was found with no. 7 and the perfect stele no. 13, pl. xxii. Nos. 4 and 5 belong to the group pl. xvi, 3. No. 6 has an *usat* eye on it. No. 9 is a copper ring bearing a name possibly intended for that of Akhenaten. It was found with a *bilbil* vase. Nos. 10 and 11 have already been described in sect. 39; nothing at all was

found with no. 10, and with no. 11 only a few eye amulets and two tiny silver hair rings.

Pl. xxi. A large number of figures of Taurt were found, a representative group of which is shown at the top of the plate. The first from the left is of bone or ivory and was found with 3, which is of green jasper; 2 is of opaque black glass with yellow spots, it is flat and the glass was worked in a very dry pasty condition; 4, 5, 6, and 7 are of blue faience; 7 is peculiar in showing the two knives, and in being marked all over the body by a pointed instrument. Group no. 6 shows a pair of alabaster rings, an earstud, also of alabaster, showing the two halves and the shank. Below these are a pair of lotos pod pendants of opaque blue and yellow striped glass, and at the side is an ivory *kohl* pot in the shape of a palm column, with a copper loop in the lower part, and a slot in the upper part for the accommodation of the stick. The peg of the cover remains, but the cover has disappeared. No. 7 gives specimens of the various types of *bilbils* found in the cemetery. They are of a very thin, hard fabric of a flaky texture. The clay is black, is burnished on the outside, and is inclined to burn a little reddish. They are of foreign origin, apparently Syrian, and are of xviiiith-dynasty date.

No. 8 shows the *ushabtiu*, all very roughly cut out of limestone.

They are all uninscribed except one, xviiiith-dynasty.

Pl. xxii, *The Bronzes*. No 12 is the *group* which was found in the pits on the north side of the Fayum road. These bronzes were buried with a quantity of broken pieces of bronze in a large crock about 3 feet under the surface. Unfortunately we are entirely dependent on internal evidence for the date as nothing was found with the bronze. The axes are not unlike xviiiith-dynasty examples in shape, but still more resemble the series of iron axes in the Petrie Coll., both in shape and weight. These iron axes date to about the xxvth dynasty. The tanged chisel at the top of the plate is again of the xviiiith-dynasty style, but heavier, and the socketed edges, though known as early as Rameses II, begin to become general about the time of the xxiind-dynasty. Adzes with this type of socket are also found in iron, which again would lead one to place this type not much earlier than the xxvth dynasty. Therefore by style the group seems to place itself later than the xviiiith and earlier than the xxvth dynasty. The socketed adzes make the xxiind dynasty a pro-

bable date, and this is in consonance with the reuse of the neighbouring cemetery under Shishak II and Osorkon II in the middle of the xxiind dynasty, which shows that people were once more using this part of the desert.

The socketed bronze spearheads no. 9 were found together in a secondary burial in the filling of one of the deep xviiiith-dynasty shafts, but within 4 or 5 feet of the surface. They will therefore be of the xxiind-dynasty time. The sockets are made by bending the thin sheet metal round and so forming a tube. With them were found two scraps of iron. One other piece of iron was found in the cemetery. This other piece was a small crooked bar of worked iron about 4 inches long, and was wrapped up in a piece of cloth; with it were found two amulets, one of Bast, the other of Isis, both of the curious deep-coloured greenish-blue glaze of the xxiind dynasty. The *stèle* no. 13 is of a rough yellow-brown limestone, and was found with the ring, bearing an *ankh* on the bezel, no. 3 and the scarab no. 7, pl. xx. No. 10 is a set of pendants. The five tabs are of slate and apparently represent stitched leather, as in the electrum girdle of the xviiiith-dynasty burial from Qurneh. The birds and Hathor bead are of glaze and the lotus of carnelian.

The two figures of *Ptah-seker-ausar* no. 11 are of the xxiind-dynasty glaze, the larger being also found with amulets of the xxiind-dynasty style, and little figures of Bast. The other was indefinite. They are both standing on crocodiles and have a scarab beetle on the head. The smaller of the two appears to wear a long moustache. Each has a very rough and unintelligible inscription down the plinth at the back. These inscriptions are to be found on pl. xvii, 14.

CHAPTER X

THE LABYRINTH

By FLINDERS PETRIE

41. THE site of this greatest of temples was finally identified in my work of 1888, when it was found that the brick chambers planned by Lepsius were only the ruins of the Roman town of the destroyers, and that the real Labyrinth had been so completely ravaged that only a great bed of chips showed its site. All that has been found since agrees with this conclusion, and almost every

point of the restoration proposed in *Hawara* still seems the most probable view.

This past season I cleared through the great bank of chips lying along the southern foot of the pyramid, which was covered by the bed of mud washed down from the pyramid core of mud bricks. This ground had from 15 to 24 feet depth of chips and earth covering. On the rest of the site I turned over most of the layer of 2 to 4 feet of chips and sand, but very little was found.

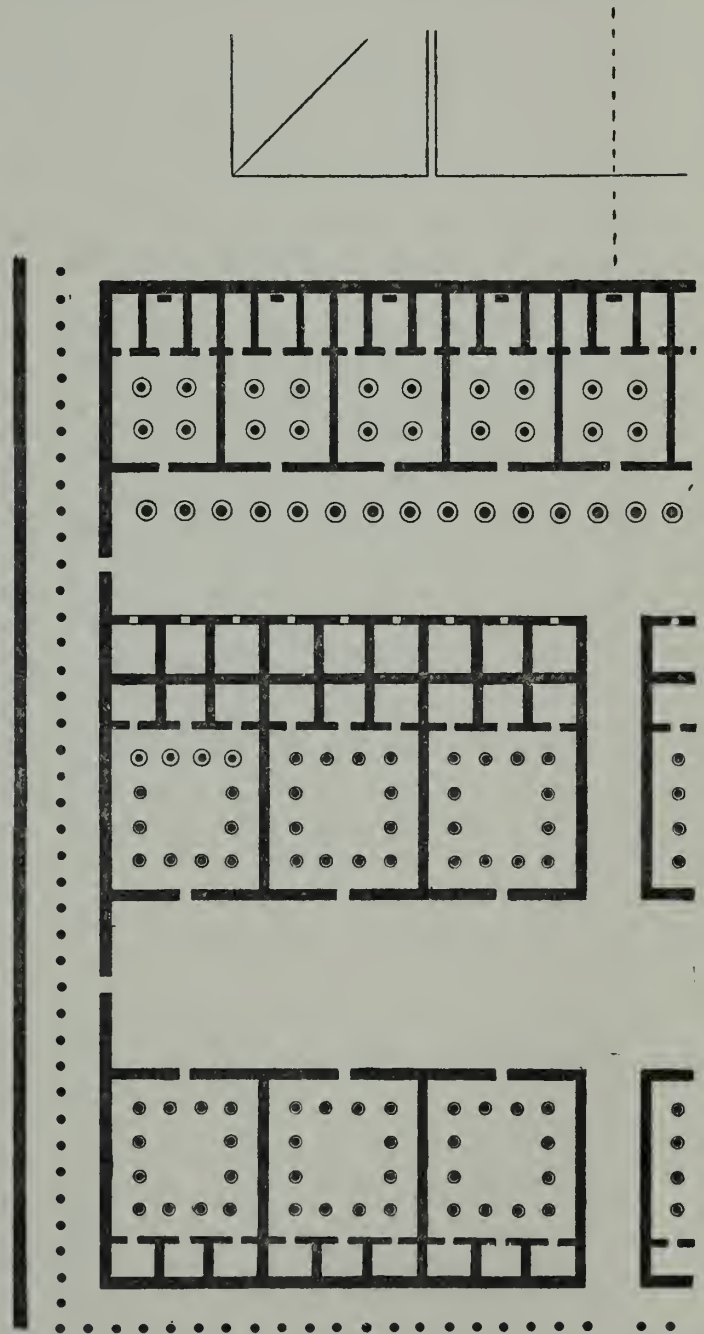
Referring to the plan, pl. xxxii, there will be seen, close to the pyramid base, the places of two great shrines of red granite, of about 8 and 13 tons weight. These are so heavy that they were probably moved the shortest distance to where they lay. The larger, to the west, was face up, head to north-east. The lesser lay face down, head to the north. Looking at them on the ground, I estimated where their original places had probably been, and have indicated these by broken outlines. A fragment of another shrine lay to the west of them.

Foundations were met with, south-east of the pyramid. The brick wall south of these, running to west and south, is of late date, overlaying a bed of chips from the destruction of the Labyrinth. The buildings marked with "woman" and "man" in the corners, lay outside of the Labyrinth, as shown by the symmetry with the wall on the west. Near the south-east corner of the Labyrinth was the great well, marked on the plan. Close to the axis on the south lies an immense door-jamb of quartzite sandstone; estimating its original position, as it was the outer face of the west jamb, it must have been exactly in place for a gateway in the axis of the pyramid. This shows that the main entrance was from the south, as the usual arrangement of a pyramid temple would lead us to expect. This jamb now lies exposed on the side of the canal which has been cut through the site.

On the western side is marked the place where the seated figure of Amenemhat III was found, some years ago. This was removed to the Cairo Museum. Near there I uncovered some foundations here marked. Further north I uncovered the base of a wall, a wide foundation bed, and on that the base of an outer wall. Work on this side is particularly tedious, as the walls are deeply buried in loose sand dredged from the canal. The general character of the site, and the position of the canal (which was cut through it before the visit of Lepsius) need not be described here, as it has been fully stated, with

levels, in *Hawara*, and that account is essential in dealing with the subject. To the south of the great outer gate there are stone foundations of a front wall; and south of that again is a massive brick temenos wall.

42. From such very scanty remains it is hard to settle anything. The descriptions by Herodotos, Diodoros, Strabo and Pliny each give some detail



RESTORED PLAN OF WESTERN HALF OF LABYRINTH
(Same scale as pl xxxii).

of value. They were discussed in *Hawara*, and I cannot come to any very different conclusion in looking over them since our later excavations. In one detail we may improve on the restoration which was suggested before, as here shown in the plan in the text. The great shrines were probably each in a separate court. The larger is so close to the axis that it was doubtless in an axial court. After allowing for the colonnade around the temple named by Diodoros (the breadth of which is probably shown by the two western walls now found), the space between the shrines suggests that there were 4 on each side of the axis, or a row of 9 in all, along the foot of the pyramid. This would agree fairly with the long hall of 27 columns named by Strabo, there being 3 columns between each of the entrances to the 9 courts. Each court would be 50 feet wide.

The total number of courts therefore would be 6+6 seen by Herodotos in the public part of the temple; and the hall of 27 columns and 9 back courts, the row of peristyle courts all backing on one wall, seen by Strabo. As I proposed before, the difference in descriptions is due to the 6+6 courts seen by Herodotos having been destroyed by the time of Strabo, who only saw the inner parts then remaining. There were thus 21 courts in all, and this tallies well enough with their being equal to the former number of nomes (Strabo); the nomes were about 21 or 22 in number at the time of the xiith dynasty. The restoration given in *Hawara* therefore should be modified by placing 9 instead of 6 courts along the back wall, as here shown; the hall of 27 columns before them, and the double set of 6 courts facing south and 6 north, door opposite to door, still seems to be the best rendering of the ancient accounts, in view of the physical conditions.

I regret not to be able to reconcile with the site the proposed restoration by my friend, Prof. J. L. Myres (*Annals of Archeology and Anthropology*, iii, 134). But it is hardly necessary to discuss the details of the paper here, as I am informed that the purpose of Prof. Myres was to recover what Herodotos visualised, without treating it as a restoration of the actual building on the delimited site. The restoration given here seems in its general form the most consistent with the area, with the character of Egyptian plans, and with the descriptions left to us. In considering any injured building, the first limitation is the size of archi-

traves and roofs, then the necessary thickness of columns and walls, the pairs of symmetric columns, and the whole bounded by the limitations of the site, and the nature of similar buildings.

There is very little trace of any restoration or addition to the Labyrinth after the time of Amenemhat III. The name of Sebekneferu his daughter is clearly added in a rougher manner to the original name of the father on the granite capitals; a piece showing this was sent to the Cairo Museum. There is no trace of any later ruler here until the Ptolemaic inscription given in pl. xxxviii, in letters about 3 inches high. On the plain, north-west of the pyramid, lies a much-weathered block of granite, as it has probably lain since Roman times. I suspected a trace of lettering upon it, and by examining it inch by inch when the sun was low I gradually recovered this inscription, showing that it was part of a dedication by a Ptolemy and a queen Kleopatra. This must certainly have been an added inscription on a main architrave of the Labyrinth; and it shows that at least as late as Kleopatra I, 193 B.C., the Labyrinth was still in royal care, and probably being restored in some degree. Soon after that, ruin fell upon it, and in Pliny's time it was "marvellously ravaged."

43. The two principal objects found in these excavations were the shrines of red granite. The positions of these, as they lay overthrown, are shown on the plan (pl. xxxii), with the positions where they are estimated to have originally stood, dotted in broken line. They may have been shifted further, but, fallen over as they are, they must have been shifted at least as far as is here shown. They probably stood each in a chapel, such chapels being placed in a row along the back of the temple. A fragment of another shrine, of the same scale, lay also at about the same distance apart to the west.

Each of the shrines contained two figures (pl. xxiii), both apparently of a king. One figure has the rounded wig, holds the *ankh* in each hand, and has the right arm across the chest, the left hanging down. The other figure is draped in the striped head-dress, and had both arms straight down. The work is fairly good, but not highly finished. Similarly a shrine with two figures of Neferhotep was found at Karnak, now in the Cairo Museum. The perfect shrine from the Labyrinth is also now in Cairo; the broken one figured here is at Ny Carlsberg. The Cairo shrine is 86 inches high, 62 wide, and 41 thick, weighing about eight tons. The Carlsberg shrine is about 102 high

and 78 wide, having a large projection of unwrought granite on one side. At the time the plates were prepared, the Cairo shrine lay face down, and could not be photographed, the Carlsberg shrine lay in a pit where the sun could only reach half of it, and where the camera could with difficulty be placed near it. That these shrines are part of the original furniture of the Labyrinth can hardly be questioned. There is no trace of subsequent additions to the Labyrinth; and such shrines were very considerable works, which a restorer would scarcely add unless he were rebuilding a great temple. The style of the figures agrees well to what might be expected. The attitude with the arms hanging straight down, and with the striped head-dress, is known in the xiith dynasty.

Beside the granite shrines, many fragments of statues were found scattered over the ground to the east and south-east of the shrines, as far as the eastern line of the pyramid. These were nearly all cut in a very hard marbly white limestone; they had evidently been the sacred figures in the chapels of the Labyrinth, and, as such early figures of the gods are hitherto unknown, they are of unusual interest. The more complete are shown on pls. xxiv, xxv. The first is of Hathor, with a human face and cow's ear; the body seems to have been mummiform, as seen in the more complete figure at the end of pl. xxv. The wig is 14.8 inches high (Cairo).

The statues of Sebek were naturally the most common. The least broken of them are half-lengths, but all have the snout knocked off. The half-length (xxiv, 3) is 29.5 inches high (Cairo). As this is not the full half of the figure, only reaching to about the elbow, the complete statue was apparently rather over 6 feet high. The figure xxiv, 2 is 17.1 inches on the wig; xxiv, 4 is 22.1 to the arm. Both of the lower figures have held a sceptre in the left hand, of which the traces are seen on the front of the body; no. 4 has also the remains of an upright staff down the front of the shoulder.

A very remarkable figure is that of a goddess with a tall head-dress composed of four palm branches or feathers (xxv, 4), of which the head-dress is given on a larger scale above (xxv, 2). On the forehead there rise two horns or tufts of hair across the base of the front branch. The face was human, and the body mummiform. The length of the piece is 40 inches, the width of the shoulders 17.7 inches; the figure was therefore life-size (Cairo). The condition of this shed some light on the history of the temple. The face had been bashed off, pro-

bably in the Hyksos period, but the statue had remained upright, as shown by the accumulations from the bats upon the top and broken parts. It appears not to have been overthrown until it was buried in the Roman age. This may be a goddess of palms, who is indicated on a late terra-cotta as a female seated between two palm trees.

Statues of the king were also common, but they had been far more frequently destroyed than the figures of the gods. One torso shows the king holding the flail (xxv, 3), wearing a collar of sixteen rows of small beads. This is 12.9 inches across the breasts (reburied). A large head-dress (xxv, 1) had probably come from a royal figure; the wide-spread thin horns are unusual. This is 13.7 inches across the feathers, and is now at Ny Carlsberg. Other fragments of statues were the knob of a crown, 8.3 wide; an arm, 8.5 wide at the armpit, and 11.0 deep, 29 inches from the top of the shoulder to above the forearm (Ny Carlsberg); an arm 10 wide at the armpit, 10.9 deep; a knee about 14 wide, 12 from the cap to the attachment of the back; a knee 5.3 wide; an ankle 2.3 wide; great toes 2.5 wide and 1.7 wide.

Beside all these in the hard limestone, some pieces of a red granite colossus were found near the south-east corner of the pyramid (pl. xxvii, 1, 2). The foot is 13.1 inches wide across four toes; the ankle of the other foot is 11.7 wide. This implies a statue of about twenty to twenty-five feet high; the limestone figures were usually about ten to fifteen feet high. There were also fragments of lesser statues in black granite, red granite, and quartzite.

An unusual group is partly restored on pl. xxvi. It represented the king seated, with two goddesses on either side, who hold a fish hanging from each hand. These fishes mark the goddesses as belonging to the Fayum lake, probably the deities of the fishing towns on the shore. Around the whole group, which was 82 inches wide, there was a sort of projecting hood, unlike anything known elsewhere. The fragments were reburied.

A large block of hard limestone, found at the south-east corner of the pyramid, had figures of two crocodiles carved on it in the round (xxvii, 4), and traces of a third (reburied). I concluded that it was part of a row of the sacred crocodiles of various localities, placed side by side on an altar or high table of stone. On the north of the pyramid, by some Roman lime-kilns, blocks of stone were found left by the lime-burners; among them was a slab

with the names of Sebek of various places (xxvii, 2). "Sebek lord of Khau" is apparently of Khau named in Boulaq Pap. III, 5, 21 (*Brugsch, Dict. Geog.* 554). "Sebek lord of Mert-neter" may be the divine lake of the pyramid, see B.D.G. 282. "Sebek lord of Bau" is not known in connection with the Fayum. Now the distance apart of these names (6·8 inches) is just the same as that of the Sebek figures, and thus it seems that these were the names placed over the table of Sebek crocodiles, shown here on the plate below the names.

44. We now turn from the statues to the reliefs and architectural pieces. Of the great scenes which must have covered the walls of the multitude of chapels, scarcely anything is left. The snout of a Sebek figure (xxvii, 6) is 7·3 inches from the back tusk to the tip (Ny Carlsberg). A curious piece is that with the king kneeling in a boat opening the door of a shrine containing a sacred tree (xxix, 2). This was doubtless a representation of a sacred bark with figures upon it, such as are commonly seen in later sculptures (Cairo). Other pieces give the Horus on Nubti name of Amenemhat III (xxix, 3), and the title of Horus in Shedti (xxix, 4), showing well the bucranion upon the shrine. This was the distinctive sign of the Fayum shrine, and appears upon the seal of the Fayum of the time of Mena (Tarkhan 1912), and down to the latest carvings, in which it was generally misunderstood.

Lesser pieces are grouped on pl. xxviii, showing the name of Amenemhat, royal titles, *Sebek shedt*, the shrine and bucranion, and usual signs. These are all coloured, with the usual red ochre, yellow ochre, blue frit and green frit.

Two large blocks of hard white limestone (xxviii) were the bases of statues. One of them names Amenemhat III as beloved of Horus in Shedti, with a title partly broken away. The other names the king as "beloved of Rohes-hotep who is in the pure fields." Rohes, "the terrible mouth," was the name of the crocodile worshipped at Bergt, east of El Lahun (*Lanzone, Dict. Mit: Pap. Boulaq* I, 4). At that place Ra triumphed (*hotep*) over his enemies (B.D.G. 197). Rohes-hotep would therefore be the god of the entrance to the Fayum.

We may here note how the scanty remains all point to a mass of local worships concentrated in the Labyrinth. The palm-branch goddess, the fish-bearing goddesses of the lake, the local god Rohes-hotep, the row of crocodiles with the names of places above them, all of these show the collection of the

minor worships of the whole district in this great temple. Such accords well with what is indicated by the traditions about the Labyrinth and by the ample detail shown in the great Fayum papyrus.

A few other blocks of hard white limestone sculpture were found which were too much broken to be intelligible. One block, 46 high, 56 wide, and 17 inches thick, had in low relief on the face the head and shoulders of a man holding a semi-circular fan 22 inches high; it was a minor figure at the side of a half-relief colossus, of which some fragments lay near.

The architectural fragments were even more scanty than the sculpture. Part of a granite threshold of a doorway has the base of a jamb upon it, 15 inches wide on the inscribed face, with a roll 3 inches wide and 3 deep on the outer side. This lay at the south-east, but it agreed with a piece of granite jamb opposite the pyramid entrance, with an inscribed face 15·8 wide, and a roll 4·2 wide outside of that.

On the canal bank lies a great gate jamb of yellow quartzite sandstone, evidently from an axial gate at the entrance to the Labyrinth (see plan, "jamb," pl. xxxii). It has the usual titles of "the Horus on Nubti, *suten bati*, Ra-ne-maat, beloved of Sebek-shedti." The *n* in the cartouche has sixteen waves in it.

Beside the columns which were published by Lepsius in the *Denkmäler* some other fragments were found. These were measured on the colonnets so as to recover the diameter of the whole. A red granite column had eight colonnets, with a diameter at the buds of 36·5 in the body, 48·9 to the edges; and 30 inches lower down 38·0 and 53·0 diameter. A white limestone colonnet gave a diameter at the top of the base sepal of 30·8 in the body, or 44·6 over all. The bands under the capital of a granite column were 44·8 inches diameter; each of the three bands 4·6 wide. A quartzite base of a column, near the entrance to the pyramid, had a cross at the centre of it; the radii measured 48·6 and 48·8 inches on the top surface, and the curve extended about 5 inches outside of that. The block was 36 inches thick, and must have weighed 12 tons when whole. Some curious small architectural fragments were found, examples of which are on pl. xxix, left side. At the top are pieces of a fluted half-column, which was attached at the back. On it was a square capital with the under edge sloping upward at 32°. The only place for such an attached column would have been in the columnar filling of a large tympanum, the capitals sloping with the curved top of the tympanum.

Such tympana with relief fillings are in the chapels at Abydos, xixth dynasty, and parts of an exquisite ivory model of such a form in open work are in the Louvre, dating from the Old Kingdom. It is quite likely then that such an architectural decoration would be used in the Labyrinth. It shows, however, that the roofs of the chapels were barrel-vaulted, and the ends filled in with this decorative columnar relief. The diameter of these attached columns is 5.1 inches, with 17 flutings in the half-circle. The flutings are painted red and the capitals green (Ashmolean and Ny Carlsberg). There were also polygonal attached columns, as shown below on the plate. The lower part with 16 flat faces left white; the upper part with faces slightly hollowed and painted black. These were 8.72 inches face to face, and tapered one-tenth of the diameter in 44 or 46 inches length. The white polygon was 9.6 to 9.8 inches high. The hollowed faces were .02 to .05 deep. As they were attached columns, they probably also belonged to tympana.

Some pieces of semi-circular roll were found, 6.1 to 6.3 wide and projecting 3.7; about double the size of that on the doorways, and perhaps from around a gateway. The fragments which were not brought away were left in the ruins if too large to move; the portable pieces were buried in a pit outside of the chip bank west of the pyramid.

45. Beside the remains of the Labyrinth some adjacent buildings were also examined. On the plan will be seen at the south-east a long mound of yellow marl. This still stands 8 or 10 feet high in one part; I was told by the residents that it was originally a high mound all over, but at present only small portions remain showing its original extent. This marl overlies broken buildings of Ptolemaic age, and some early Roman pottery was found in it. This implies the excavation of a large subterranean space in Roman times, and I naturally connected that with Pliny's mention of great catacombs of the crocodiles in a wing of the Labyrinth. If we could trace the source of this great mass of marl we should find the Roman catacombs, which would probably lead to those of earlier age. We accordingly tried all over the region for any large opening, and, in course of so doing, found some interesting buildings, but did not succeed in finding the source of the marl. All of the walls in the south-east of the plan were entirely found in the course of the deep clearances then made. Lastly I traced some blocks of marl lying further west, and, searching for the source, we found the

circular well. This was evidently a water-well, as it had no means of descent; the volume of it would not at all account for the great mass of marl, the mystery of which yet remains unsolved.

The main work found in this region was a double wall with a filling of chips between the two. This runs for about a quarter of a mile east, and only the inner end of it is shown in the plan. The north wall is well preserved, 139 inches thick, with a batter of 1 in 4 on the outside; it is rather overhanging, and rough inside, showing that it was always intended as a retaining-wall. The southern wall had nearly all been carried off for bricks, leaving only broken bricks behind; with difficulty I found enough left in one place to fix the position.

The purpose of this structure must have been for a long raised causeway up to the front of the Labyrinth. It was certainly of the xiith dynasty, as the little chamber built against it had a red, black, and white dado, like that in the houses at Kahun; and against the wall lay a thick bed of broken pottery of the xiith dynasty. Here it was that we found the pieces of great stands of pottery (xxxiii, 8), the model vases (25-29, 33, 34, 37, 39, 40, 49, 68, 69), the ring stands (70-74, 81), the pretty flask, coloured red with white bands (106), and some other forms all marked S.

This raised causeway ended at a sand bed, with one or two courses of substructure lying on it. This is opposite to the massive substructure of a wall visible on the other bank of the canal, here shown to the west of it, and joined by dotted lines, giving the probable position of the wall. The causeway ran to the outside of this wall, evidently to a road which led along the front of the stone wall of the Labyrinth; but it was inside the great brick temenos wall, of which I saw a piece to the south of this (marked on the plan).

Another curious structure, here, lay to the north of the yellow marl mound. Only the brick foundation enclosures of the sand bed were found, as all of the stone building had been carried away and only chips left behind. The main building must have been about 90 feet wide and somewhat longer. I searched for foundation deposits to see if the building could be dated. In the N.W. corner lay the bones of a woman, feet east, head west, lying on the back. She was rather a small woman, between 30 and 40 years old, judging by the teeth. The body was intact from the feet up to the shoulders, except that the spine was separated about the middle, and one vertebra turned half round. But above the shoulders

there was a gap of 17 inches before reaching the skull, only two neck vertebrae lying between. The skull lay turned round in a recess in the western wall. The recess was evidently made for it; and if we are to deny that this was a sacrificial interment we must assume: (1) that a chance burial took place in a corner of foundation after the building was destroyed, the brick wall being scooped out to hold the head; and (2) plunderers had found it, cleared the whole grave of sand, and dragged down the body, parted from the head, for 17 inches without shifting the legs or arms from the interment posture, with the hands lying evenly on the front of the pelvis.

The small chance of such a burial and plunder hypothesis is reduced to still less by the burial in the south-west corner of the same building. Here we found the leg and foot bones of an old person, very arthritic, apparently a man by the size. These bones were buried in the clean sand like the woman's burial. Are we to believe that this burial has likewise been plundered, and all the trunk and upper parts removed? Neither burial agrees to any probable course of plundering; and the conditions observed agree much better to these being human sacrifices made at the foundation of the building. I tried to find the other two corners, but could not succeed in tracing them. There lies about eight or ten feet of rubbish of later buildings over these foundations.

As regards the date of this building, after the stone work was entirely removed, burials took place amid the ruins in pottery coffins of the xviiith-dynasty style, with beads of that age. Hence the stone work had been entirely removed before the close of the xviiith dynasty; so the building must have belonged to the xith dynasty and be a part of the general work connected with the Labyrinth.

On the plan, pl. xxxii, will be seen, in the middle of this building, the site of "Fire Altars." Amid a great mass of limestone chips, which filled the space between two brick walls, there were dozens of fragments of model stands bearing bowl lamps on them and tongues of flame, carved in limestone. These I fitted together, as far as I could, and photographed in groups, as in the upper part of pl. xxviii. There were two different forms; one with a flat back carved only on one side, shown to the left hand; the other carved in relief on both sides, shown to the right. The total height was 17.9 inches to the top of the bowl, or 13.5 without the flat pedestal. The fragments found represent but a small part of the whole; there are

22 bowls in all and 16 flames, but only 3 flames fit the bowls, thus indicating that we have only $\frac{3}{22}$ or $\frac{3}{16}$ of the whole, say $\frac{1}{6}$. From this we should conclude that there were about 130 bowls in all. As they are about $3\frac{1}{2}$ inches wide, there must have been about 38 feet length. There was about an equal amount of the flat back (15 bowls) and of the double relief (13 bowls); but there were three end bowls of each type. This suggests that there was one end to ten bowls, or that they were in rows of twenty. We therefore come to the idea of there having been three rows of about 20 bowls of each of the types, each row about six feet long. As they represent bowls with flames, or lamps, it seems probable that they were arranged in some manner before a shrine of Sebek to represent ever-burning lamps or incense. These lamps, and the great mass of small offering vases which had been thrown away just to the south of this building, against the causeway, point to there having been a popular shrine of Sebek, outside of the great stone Labyrinth on the south. This may well have been in connection with the catacombs of the crocodiles mentioned by Pliny. (Ashmolean, Manchester, Univ. Coll. London.)

These model lamp bowls explain for the first time a form of bowl which has often been found in the remains of the xith dynasty, such as this year in tomb 52, see pl. xxxv, 112. As Mr. Mackay found some at Mazghuneh this year, we may refer to them as types, on pl. xlv, left hand. Below them are some of these model bowls from Hawara, with the flames restored in place. The form of the bowls and of the models is identical, the same contour, the brim, the slight flat hollow within it, and the central cup for the flame. It cannot be doubted that these stone bowls are lamps. But what is the sense of the peculiar form? I have long supposed that the ancient Egyptian lamp was a floating wick in oil resting on water. This is the regular lamp of the middle ages and modern times in Egypt. The use of the water below the oil has been forgotten when glass lamp bowls, or modern glass tumblers, are used; but the water was essential when the vessels were pottery bowls, as these being wetted would not take up the oil. Thus we can see the use of the shallow flat space around the oil-cup in the stone bowl, as it would hold water to keep the stone block moist, and so prevent the oil soaking away into the stone. Herodotus mentions the use of salt water in lamps; the purpose of the salt being to hinder the evaporation of the water.

Among the broken stone in the same region as the fire altars was a limestone model of the Hawara pyramid. The angle is exactly that of some of the casing fragments, which is about three degrees flatter than the angle of most of the pyramids. This model (pl. xxvii, base) is broken below, so the present size of nine inches square does not at all show what were its original dimensions. (Univ. Coll., London.) Such a model of a pyramid being found here, corroborates the meaning of a stone, cut in steps, found at Memphis, which I had already thought might be a model of the step-pyramid of Saqqareh. (Univ. Coll. London.)

CHAPTER XI

THE TOMBS OF THE XIITH DYNASTY

By FLINDERS PETRIE

46. A great cemetery lay to the north of the pyramid of Hawara on the desert plain. The first use of this ground must have been under Amenemhat III, so the well-cut rock tombs date from the latter part of the xiith dynasty. These tombs were in many instances re-used in the xxird dynasty, and for later crocodile burials. Over the parts near to the pyramid the superficial burials of the Roman age were laid, from which the gilt cartonnage and painted portraits were recovered. Excavations were made during the work at Hawara, opening many of the rock tombs. Not one was intact, and very few objects were found in them. The plans of some of the tombs are given, all with north upward, on pl. xxxvii. The pit is usually about twenty feet deep, and of a long form to allow of lowering a coffin. The chamber is either to the south or north of the pit, never to the east or west. The early idea of a recess along the side of the pit, which was followed from the prehistoric down to the xixth dynasty, had been entirely abandoned by the end of the xiith dynasty. Where there are remains of a chapel on the surface, the false door for the offerings is placed to the east of the chamber below.

The chamber may be symmetrical, or may expand on the western side for the coffin. As in the xixth dynasty at Tarkhan, the coffin front faced in no. 64 to the east, as shown by the eyes painted at the head end of the side. On the eastern side of the chamber may be a recess cut in the rock, as in nos. 54, 61. The more elaborate type has a slope to the passage (no. 61), leading down to the stone coffin, while the chamber expands above the coffin with a bench in the

rock on each side, which had been lined with fine limestone slabs. This is the type of the great tombs which I opened here in 1888, and which could not be cleared owing to the rise of the water level.

47. As all these tombs had been plundered, and even the wrappings re-used on Roman mummies (see the other volume of this year), not much can be settled of the original arrangements. In tomb 51 the canopic heads (pl. xxxi) were found at the places marked C, and the vases at the letters V. The canopic jars and heads were at the letters C in tomb 57. In 51 was a pan full of little model cups just at the entrance. In 57 the statuette or ushabti of white limestone (pl. xxx, upper) lay in the N.E. corner.

In tomb 64 at A stood a large jar of the form xxxv, 100; B was a small coffin of a child placed on the top of the large one of Bebut, marked D; C was the coffin of another child, both the children were about three feet high. The coffin was inscribed in green paint, with the usual formula to Osiris on one side, and to Anubis on the other, see base of pl. xxxvii. Beneath the long lines were four columns of the speeches of the four sons of Horus, also of Ra, Geb, Shu and Tefnut. On the head end is the devotion to the cycle of the gods. It was not in sufficiently good condition to be brought away. The body was 55 inches long, in the usual position, on the back; a half brick lay east of the head, and another east of the knees. In the coffin C the child had a shell and two beads on the neck string, and a scarab inscribed *nefer desher nefer* with a ring on the right hand. These were the only ornaments on these three bodies.

The groups of pottery found in these tombs were as follows: In tomb 51, fig. xxxiii, 32; in 52, figs. 9, 16, 23, 24, 77, 82, 83, 84, 86, 96, 108, 111, 112; in 53, figs. 3, 7, 80, 101; in 57, figs. 22, 79, 89, 94, 104, 107, 109; in 58, figs. 11, 97; in 59, figs. 5, 88, 95; in 60, figs. 2, 13, 18, 90; in 61, figs. 20, 35, 41, 46; in 62, fig. 87; in 63, figs. 14, 17, 19, 43, 44, 47, 54, 56, 60, 67; in 65 a stone sarcophagus, with figs. 93, 103, 110; in 66, figs. 11, 62, 76, 97, 104; in 67, fig. 6; in 68, figs. 85, 91.

Turning to the photographs, on pl. xxx at the left side is a complete group found with a burial of a girl, tomb 58. This had remained intact owing to its not being in a usual tomb, but buried in a pit about eight feet deep. The pottery at the top is of the ordinary xiith-dynasty style, thin brown bowls and a round-bottomed vase. The model couch is a unique example of a couch of this age, only those of the ist and the xvith dynasties being hitherto known.

It is carefully made, the length being 19'29 and 19'35 inches, the breadth 9'20 and 9'24 inches. The sides were strutted apart by curved pieces of wood, allowing for the sag of the webbing. The feet have become entirely conventional, from the old bull's-leg pattern, and turned toward each other. The head board is retained by two bent wood angle-pieces.

The coffin was of stuccoed wood, painted blue on a yellow ground, with two eyes on the east side with usual formulae, and name of Sit-rannut. It was too much eaten by termites to be removed. The body lay on the back, head to north, wrapped in about twenty turns of linen. At the right foot was the box with sliding lid. In the box was a necklace of small black seeds; between every pair of seeds hung a thread with three seeds, and a small shell at the end. There was also a bracelet of 12 separate sections, each of 18 lines of five seeds. With these was also the blue glazed dove, the scarab with spirals, the four-lobed bead, and the little model vase of wood. Beneath the box was a necklace of 78 helix shells. At the left foot was the wooden female figure, which is well carved, and painted yellow, with black wig. With it was a great quantity of clay beads made up as a wig for the figure; also some green ball beads. The model couch lay over these objects at the feet. The whole of the objects are in University College, London.

At the right of pl. xxx are two hard white limestone figures, which appear to be derived from the *ka* statues representing the deceased; but from their size, and mummy form, they might be classed as ushabtis. The upper one has a *du suten hotep* to Osiris for the *ka* of the lady of the house Hont-nofert (Manchester). The lower one has the same formula to Osiris, lord of Rustau, to grant the deceased to come forth walking happily in the underworld, that he may behold Ra at his coming forth in the horizon (Cairo). Such figures are unknown before, and point to the brown serpentine figures of this age being strictly *ka* figures rather than ushabtis.

On pl. xxxi are shown the canopic jars. The complete set of heads from tomb 51 has three bearded and one beardless; such a separation is known in other groups of this age, as for instance that in the tomb of Khnumu-aa at Rifeh. There were no inscriptions on the jars in this tomb. In tomb 57 were the two inscribed jars of Iu-nofer. On a fragment of a coffin was the name Akhet-hotep, and by the side of it lay the painted lime-

stone macehead, and the beads of a flail painted green, shown at the base of pl. xxxi.

48. A few objects of later date than the xiith dynasty were also worthy of note. Beside many coffins of the xxiiird-xxvth dynasties of poor work, one group of beads was found together, of about the xxvth dynasty, shown at the base of pl. xxxi. The *uza* eyes are of agate and blue paste, the scarabs of black jasper, blue paste and rock-crystal, the Bes heads of blue and green glaze, the pectoral of blue glaze has figures of Isis, Hat-hor, Mut, Nebhat, and Sekhmet. The pebbles are of white and brown quartz. Some small glass beads have blue and white eyes. The whole is characteristic of the age shortly before the xxvth dynasty.

A crouching figure of hard white limestone was found lying in a long sloping passage which probably led to a tomb of the xiith dynasty, but as it went under water it could not be examined. The figure is shown in the volume on "Roman Portraits"; the surface is a good deal worn, but the inscription can still be read, as at the base of pl. xxxviii. The four columns on either hand are those on the sides; the two middle columns are down the back.

A remarkable piece of Ramesside sculpture was brought from Koptos by one of my workmen, see top of pl. xxxviii. It represents the *ka* figure of Ramessu III (perhaps to be called R. IV, see Daressy in *Rec. Trav.* xxxiv) fanning the king himself with the long feather fan. The inscription is only an adoration of Ra. That the *ka* could thus be shown acting separately from the king points to a strange conception of it. Is it possible that the children born on the same day as the king shared in his horoscope, and were regarded as his doubles? To prevent them rivalling the king they might be kept with him as his servants, and so actually wait upon him as here shown.

The inscription of Kleopatra is noted in the history of the Labyrinth.

In the mummies of Roman age, described in the other volume, thin plates of gold are often found upon the tongue, see pl. xxxvi. As I noticed that some of these were just equal in weight, Sir William Ramsay kindly had them weighed in the chemical department at University College. It then appeared that there were two groups, one based on the well-known gold standard of the *pek*, the other on the *sikhir*, the Egyptian and Babylonian standards. The plates are shown on pl. xxxvi, with their weights and the multiples of the units. The *pek* unit is multiplied

by 2, 3 and 4. The *sikhir* unit is given as a whole and a half; also as 3 and 4 sixtieths, and an eighth, of the shekel. The patterns show a different treatment of the two standards: the shekel plates are cross-ribbed or triangular, and only one form is common to both standards, nos. 2 and 11. These plates were distributed: nos. 6 and 15 to University College, London; 2 and 16 to Manchester; 1 and 10 to the Anthropological Museum, Oxford; 11 to Bolton; 3 to Leicester; 13 to Aberdeen; 4 to Glasgow; 8 and 14 to Brussels; 7 to Munich; 12 to Boston; 5 to Chicago. It is much to be hoped that such gold plates in other museums will be weighed and compared:

CHAPTER XII

THE CEMETERIES OF MAZGHUNEH

By ERNEST MACKAY

49. THE district entrusted to me this season was a tract of ground bounded by the American concession, 1 kilometre north of the village of Bernasht, and by the Government reserve 1 kilometre south of the southern pyramid of Dahshur, the total length being about five miles, in which many small cemeteries, ranging from the ivth dynasty to Ptolemaic times, were uncovered. The whole district has been ransacked by ancient and modern plundering; and, with the exception of a few instances, the graves had been so badly disturbed that they were rendered comparatively useless for recording purposes, and I was therefore only able to recover the plans of the more interesting. The most valuable item of my work in this district was the finding of a hitherto unknown pyramid tomb of the xiiith dynasty, the description of which will be found in Chapter XIII. Also another large pyramid tomb of the same age was cleared and planned; this will be seen to possess several unique features in its construction. These two tombs have been named the north and south Mazghuneh pyramids, as they lie nearly opposite the railway station of that name.

Unfortunately I was not able to recover the names of the persons for whom these pyramids were built, but the similarity in the construction of their tombs to certain parts in the tomb of the Hawara pyramid indicates that they were built for Amenemhat IV and Queen Sebek-neferu. The northern pyramid, being the largest, was probably intended

for the former ruler, but it is practically certain that he must have been buried elsewhere, for the tomb had never been used. The evidence for this is gathered not from the tomb having been left unclosed, but from the entire absence of any trace of a burial and of any funeral vases, either of pottery or of stone.

The cemeteries in the district were invariably found placed on the slopes of the small hills that lie close to the cultivation. Some of these hills are locally named, and I have therefore thought it best to call the cemeteries after the names of the hills upon which they lie.

The first cemetery north of Bernasht occurs on a hill known as Kom el Howa, or "the mound of the wind." This comprised a number of Ptolemaic burials, all of which had been badly ransacked. The graves were oriented north to south, and the bodies placed on their backs in a long recess on the west of the grave.

50. A little north of this kom was another hill that went by the name of Abu Shalbyah. The latter is the name of a certain variety of Nile fish, though why this hill should have been so designated is not easy to understand.

The burials on the north of this hill were of the vith dynasty, and beyond pottery shown on pl. lii and a few beads nothing was found. The graves were cut in the heavy marl of the hill, the way into them being by sloping passages roughly made. These will be now dealt with in detail.

Tomb A.S. (3) (pl. li). Disturbed. Entrance to tomb was by sloping passage 264 inches long \times 46 inches wide, oriented N.E.-S.W. Roof of the passage destroyed. A chamber was cut on the N.W. of the way at its end, measuring 139 inches long \times 60 inches wide \times 52 inches high. This was formerly closed at its mouth by a walling of brick 29 inches thick, the bricks averaging $12 \times 5.5 \times 3.1$ inches. The burial was that of a woman placed with her head to N.W. Traces of linen clothing badly rotted were found. A bronze mirror was seen at the N.E. of the head, and steatite beads of cylindrical form were scattered about the grave, together with uninscribed mud jar sealings. Two pottery jars were found inside the wall at the S.W. corner filled with mud (pl. lii, 4 and 5).

Tomb A.S. (4) (pl. li). Disturbed. Entrance to grave by sloping passage oriented N.E.-S.W., 214 inches long \times $63\frac{1}{2}$ inches wide. Roof of passage destroyed. The paving was cut into rough steps, hard nodules of stone being left in the marl. Chamber

173 inches long \times 116 inches wide \times 57 inches high. The N.W. end of chamber was barred off by a brick walling 14 inches thick, and standing $15\frac{1}{2}$ inches high. This left a space of 43 inches between the end of the chamber and the brick wall. At the N.E. of this apartment there was a pit cut in the floor 93 inches long \times 39 inches wide \times 38 inches deep, obviously intended to receive a body. The entrance to the chamber was closed by a brick wall 12 inches thick, built of bricks placed on their edges, as a row of headers. The average dimensions of these were $12.0 \times 6.1 \times 2.8$ inches. No bones were found in this tomb, but a quantity of broken pottery was present, as well as a bronze mirror, a model chisel, fragments of two wooden statuettes, and a few carnelian and glazed beads of cylindrical form. All these were found scattered about the tomb.

Tomb A.S. (7) (pl. li). This grave was the largest and most important found on this hill, but, like the others, had been entered and cleared. The entrance was from the south, by means of a short open passage 111 inches long \times 55 inches wide. This led into an open courtyard irregularly shaped, the floor of which was partly taken up by two sloping passages running north and west. The northern passage was 234 inches long \times 55 inches wide. The western was 164 inches long \times 50 inches wide \times 62 inches high, the eastern end of which entered a low, roughly-cut chamber 43 inches high, and shut off from the passage by a brick wall 24 inches in thickness. Nothing whatever was found in the courtyard and passages of this tomb with the exception of four pieces of pottery similar in shape to pl. lii, no. 1.

Tomb A.S. (10). This tomb was of a simple type, and was roughly cut in the hard marl. The entrance into it was from the south by means of a sloping passage 187 inches long \times 43 inches wide \times 40 inches high. At the end of this there was a drop of about 1 foot into the chamber, which had a recess at its end of an equal height with the roof, namely, 44 inches high. The chamber only contained four pieces of pottery of the same shape as pl. lii, no. 10, and a few tubular and barrel-shaped steatite beads.

51. At the south of this hill another small cemetery was found of a slightly earlier date, namely, ivth to vth dynasty. The burials in this were better preserved, the reason being probably due to the fact that no offerings were placed with the bodies, and therefore the graves were not worth robbing. I have called this cemetery A.S. South, thus distinguishing it from the cemetery already described.

Tomb A.S. S. (1) (pl. li). Shaft 36 inches N.-S. \times $37\frac{1}{2}$ inches E.-W. \times 88 inches deep. The burial of a woman in a contracted position was found at the bottom of the shaft, lying on her left side with head to N. and facing E. Traces of bark-cloth clothing were seen.

Tomb A.S. S. (8). Shaft 78 inches N.E.-S.W. \times 42 inches S.E.-N.W. \times 103 inches deep, containing a body laid straight on its back with head to N.E. and facing S.W. A small alabaster jar, greatly corroded, was found to the right of the head, and a pottery jar (pl. lii, no. 7) in the middle of the shaft 4 feet below the surface of the ground.

Tomb A.S. S. (9). The opening into this tomb was from the east by a short passage partially destroyed. A long courtyard running N.-S. was then entered 470 inches long \times 68 inches wide. On all four sides of this were arranged a number of shafts, some being partially in the courtyard. Beginning at the N.W. corner of the court, shaft (C) contained a disturbed burial lying in a rough recess 32 inches N.-S. \times 21 inches E.-W. \times 16 inches high. This recess was placed on the west of a shallow pit 32 inches square \times 57 inches deep. The recess was protected by a brick wall 14 inches thick, the top portion of which had been removed by plunderers.

Shaft (A). This was 33 inches N.-S. \times 28 inches E.-W. \times 37 inches deep. West of this was a small niche $37\frac{1}{2}$ inches N.-S. \times 10 inches E.-W. \times 11 inches high, containing the contracted burial of a man with head to N. and facing E. The entrance to the shaft was protected by a small covering or mastaba of brick coated with mud. This made a mound 18 inches high above the floor of, and projecting 18 inches into, the courtyard. South of this shaft was the passage (B) which was found destroyed.

Shaft (J) measured 48 inches \times 50 inches, and was cleared for 210 inches of its depth until water was reached, which prevented our getting to the burial.

Shaft (H). This was 40 inches N.-S. \times $40\frac{1}{2}$ inches E.-W. \times 100 inches deep. West of this was placed a small chamber 60 inches N.-S. \times $41\frac{1}{2}$ inches E.-W. \times 38 inches high, containing a burial, head to N. and facing W., lying in a contracted position. Owing to the bones being badly preserved, though untouched, it was not found possible to determine the sex.

Shaft (F). The dimensions of the entrance well were 26 inches N.-S. \times 34 inches E.-W. \times 28 inches deep. A small recess was cut at the south of this, measuring 34 inches N.-S. \times 38 inches E.-W. \times 28 inches high. This held a body lying with its head to

the W. and facing N., in a very contracted position. The burial was protected by a brick wall $13\frac{1}{2}$ inches thick placed just inside the recess. The bricks were laid on their edges, and average 11.9 inches \times 5.2 inches \times 3.1 inches. Just above the burial was a red polished dish figured in pl. lii, no. 2.

Shaft (G). The dimensions of this were 35 inches N.-S. \times 21 inches E.-W. \times 79 inches deep. At the E. was a recess containing a burial, the body being placed in a very contracted position with head to N and facing E. The remains of a wooden coffin were also seen, about 42 inches long. The top of the shaft was closed by a covering of brick, projecting some two inches into the courtyard.

Shaft (E). This was partially cut in the floor and side of the courtyard. Its dimensions were 40 inches N.-S., 31 inches E.-W., and 24 inches deep. No recess was found, the contracted body of a male being placed on the floor of the shaft in a square wooden box, with head to N. and facing E.

Shaft (D). This was 36 inches square and 79 inches deep, cut in the side of the courtyard. All the contents had been removed, and the tomb was empty.

These tombs seem to have been a family burial place, as is fairly common at this period. It is unfortunate that the bones of the burials were not better preserved; the ground however was so damp, despite the fact that it was some considerable distance above water level, that the bones in many cases resembled thick mud in consistency.

Tomb A.S. S. (12). The shaft of this measured 62 inches N.-S. \times 68 inches E.-W. \times 186 inches deep. There was a recess on the west of this 94 inches N.-S. \times 44 inches E.-W. \times 43 inches high. It held the body of a man lying straight on his back with arms straight against his sides. The head was to the north and faced upwards.

Tomb A.S. S. (14). Shaft 44 inches N.-S.W., $44\frac{1}{2}$ inches S.E.-N.W. Recess on N.E. of shaft, measuring 100 inches N.E.-S.W. \times 55 inches S.E.-N.W. \times 36 inches high, holding the body of a man (?) in a badly decayed wooden coffin. The head was at the N.E., and facing N.W. The body was lying straight upon its back, and showed signs of having been disturbed. The fragments of two small pottery saucers were found amongst the bones.

52. Working north the next hill was named Kom es Sunt, or *The Mound of the Acacia*, a name given to it owing to its proximity to a large grove of these trees. The cemetery here was a very

small one, and not one burial was found intact. The dates of all these tombs were of the ivth and vth dynasties.

Tomb S. (1) pl. li. This grave was found empty, but is noticeable on account of its curious form. The length and width at the top were $104\frac{1}{2}$ inches N.-S., and 44 inches E.-W. The depth down to the ledge, which ran round the shaft, was 60 inches, and a further 34 inches brought one to the bottom. The receptacle for the body measured 92 inches \times 34 inches. It is quite possible that the ledge was provided to hold a cover of wood, or pieces of stone, in order to protect the burial. The whole grave was cut in fairly hard rock.

Tomb S. (2) pl. li. This tomb was also curious on account of its design. It was roughly cut in the slope of the hill, the entrance shaft measuring 42 inches N.-S. \times 76 inches E.-W. \times 63 inches deep. On the west side of this was another smaller shaft, 44 inches N.-S. \times 39 inches E.-W. \times 104 inches deep. West of this again was the chamber 52 inches N.-S. \times 28 inches E.-W. \times 38 inches high. The burial had either been entirely removed, or no body had been placed here.

Tomb S. (4) pl. li. The entrance to this was by means of a short open passage, 34 inches long \times 28 inches wide. This led into an open courtyard 182 inches long \times 78 inches wide at the east, and 101 inches wide at the west. At the end of the court a covered passage was entered, 72 inches long \times 57 inches wide \times 72 inches high, that led to two shafts provided for burying purposes. The northern shaft was cut partly in the passage, and partly in the side of the tomb, measuring 36 inches \times 41 inches. The southern shaft was 36 inches square. We could not reach the bottom of either owing to the presence of water.

In the N.W. corner of the courtyard there was a limestone false door $28\frac{3}{4}$ inches high \times $20\frac{1}{2}$ inches wide \times $3\frac{3}{4}$ inches thick. This was inserted in the western wall of the courtyard, and formerly had beneath it a stone altar. Fragments of the latter were found in the middle of the court. A photograph of this tomb showing the false door in position is shown at bottom of pl. xlvii.

53. A little north of Kom es Sunt is another hill known as Kom Amar, the meaning of the name being uncertain. A fairly large vith-dynasty cemetery was found here, but plunderers had, with two exceptions, taken away everything, including the pottery.

Tomb A. (1) (pl. li) was found closed. It was entered by a sloping passage gradually widening towards the chamber, and measuring 228 inches long \times 51 inches wide at the mouth, and 71 inches wide at its northern end. The chamber lay at the west of the passage, sealed up by means of a brick wall 26 inches thick. The skull of an ox was found on the pavement of the passage close to the middle of the wall. After the bricks had been removed, there was a drop of 6 inches into the burial chamber, the dimensions of which were 114 inches N.-S. \times 58 inches E.-W. at its northern end. A body was found in the middle of this with head to the north, but the bones had been disturbed, and pieces of the wooden coffin in which they once lay were piled up against the western wall of the chamber.

It would seem therefore that the body was broken up before the chamber was finally sealed, as in the cases of Nefermaat and Atet. Two alabaster vessels shown on pl. l, nos. 1 and 2 were found just to the north of the head, and a bronze mirror at the S.E. corner of the chamber. A quantity of bird bones were mixed with the human remains. The bricks that formed the sealing of the chamber averaged 12.7 \times 6.1 \times 3.2 inches. The passage and chamber were roughly cut in the soft marl by means of wooden chisels (like those found at Deshasheh), one of which was found at the entrance of the passage.

Tomb A. (2) pl. li. This was a simple type of tomb, the entrance being a vertical shaft, 104 inches N.-S. \times 41 inches E.-W. \times 134 inches deep. West of the shaft at the bottom was a chamber of the same length, 45 inches deep \times 39 inches high. The body in this had been broken up, but we recovered a small alabaster vessel (pl. l, 3), a broken mirror, and a quantity of carnelian, steatite, and bronze beads, that once formed part of a deep collar. The bronze ends of this collar were also found in the rubbish of the pit.

54. The next hill was called KOM SHEYKH KARAMYD, from the presence of the tomb of a saint of that name placed upon its summit. The hill has on its southern side a small cemetery of the late Ptolemaic period. On the plain at the foot of the hill at the north there was an extensive cemetery of the Ptolemaic period superimposed above a cemetery of the xxiind dynasty. We devoted some little time to clearing both cemeteries, as we were informed by the villagers that much valuable stuff had been taken from the site by plunderers. We found, however, that the place had been thoroughly ransacked,

and that nothing remained but a few beads characteristic of the xxiind dynasty.

Between Kom Karamyd and the southern Mazghuneh pyramid was a cemetery of the vth-vith dynasties and Roman intermixed. One tomb of the latter period was untouched by modern plunderers, and contained two rough chambers, placed north and south of the entrance. The northern chamber contained a large pointed amphora filled with burnt human bones, together with a smaller vase which was empty. The amphora had a wide neck, and a moulded lip with flat vertical handles. Its body was full, with a hollow base more like a stand than a foot; the bottom of the base was moulded like the neck. The material was a buff clay, covered with a heavy white engobe, resembling pipe clay and very friable. The jar was decorated in polychrome, as follows: Broad pink band round neck. On each side of the shoulder was an eight-pointed star between roughly drawn three-leaf palmettoes springing from the handles. From the base of the handles a heavy festoon fell over the body of the vase on either side, the loose ends of which hung down under the handles. On one side of the vase the fillet is blue and black, and on the opposite side pink and mauve. The base was decorated with a rough pattern resembling conventional lotus buds in vertical bands of alternate blue, pink, and mauve. The dimensions of the jar were 17 inches \times 12 inches wide, and it was closed by means of a rough earthenware saucer just placed over the top as a lid. The small vase was of grey clay covered with a buff slip, with decorations on either side impressed from a mould. The decoration divided horizontally into three fields—the top field had bands of ornament consisting of incised circles, vertical lines, rosettes, ribbon with serrated edges, band of loops, and another ribbon. The middle field contained a panel of three figures. On one side was a Silenus apparently with a basket, or bundle of foliage on his shoulders. Next to him was a youthful reveller with left arm and leg raised as though dancing, and with a small cloak over the shoulders. On the head was a fold of the cloak or possibly the lion-skin of Herakles. The right hand is stretched by the side and holds an uncertain object. The third figure was that of a draped woman drawing forward her veil with her right hand, and holding an uncertain object in her left hand. In the bottom field were three large, roughly modelled acanthus leaves placed vertically.

The southern chamber contained the body of a

child, and the following articles were recovered from it which are shown photographed at the top of pl. xlv. These comprise—3 pieces of pottery, 2 pottery lamps, 3 alabaster kohl pots, 2 alabaster dishes, 1 pair of pottery model shoes, 2 pairs of wooden clappers (?), and a quantity of yellow and black glazed beads. The long kohl pot was beautifully made, the neck as thin as paper being cemented into the body of the vessel. The pair of shoes were very curious, and were made of brown pottery painted white, with red soles. The leather fastenings of these were shown in black lines. The wooden clappers (?) are very well known, but it is difficult to decide what was their use. Only one pair is shown in the plate, as the other two of precisely similar form were much decayed. The date of the group is early Roman.

CHAPTER XIII

THE SOUTH PYRAMID OF MAZGHUNEH

By ERNEST MACKAY

55. The site of this pyramid was first discovered by my observing that a considerable tract of ground was strewn with a thin coating of limestone chips, about three miles south of the southern stone pyramid of Dahshur. This contained what was obviously a large pit filled up with wind-blown sand, the axis of which lay from north to south. Suspecting that I had here a tomb of unusual importance, I attacked the place by a series of narrow trenches, leading inward from far outside the south and west of the stone-strewn site to the pit in its centre.

Early in the course of this work a wavy wall of brick was found, which we were able to trace without difficulty, eventually unearthing the greater part of the four sides of an enclosure wall $41\frac{1}{2}$ inches in thickness, and standing, in places, over 60 inches high. After further work we found that this wavy wall formerly surrounded a small brick pyramid, cased with limestone, which I shall proceed to deal with first.

56. THE PYRAMID. The base of the pyramid was laid out by cutting a trench (pl. xxxix A) in the hard sandy soil 202 inches wide and 39 inches deep. This trench enclosed a practically square piece of desert, in the middle of which lay the tomb pit.

The two opposite sides of this trench were lined with a coating of one thickness of brick, set at a slight batter, the face of which was plastered with mud and

then whitewashed (pl. xlii). This batter was produced by setting each course slightly behind the one beneath it. Owing to the friable nature of the sides of the cutting, such a coating of brick was necessary, in order to preserve a clean outline for the work.

At the bottom of the trench we found various large foundation blocks of limestone *in situ*, two of which partially occupied the N.E. and N.W. corners of the trench. One of these may be seen in the foreground of pl. xlii. All these blocks were bedded on a thin coating of clean sand, and bear traces of attempts to break them up by means of deep grooves cut in their sides. Three of the corners of the trench were found to be in excellent preservation, *viz.* the N.E., N.W., and S.W. The S.E. corner we were not able to trace, as its outline has been quite destroyed, and lies under a thick coating of limestone chips. I was thus able to measure the northern and western sides of the trench, which are 182 feet, 8 inches, and 181 feet 9 inches respectively, the difference being a practically negligible quantity of 11 inches. Taking the average, therefore, of these two measurements, and allowing a little for the footing of the pyramid, it is possible that 100 cubits was the original base of the pyramid, with a paving about three cubits wide around it.

The square tract of ground enclosed by the trench was covered in many places by one to two courses of mud bricks, laid upon their sides in loose gravel. This was all that was left of the filling of the pyramid, with the exception of a small mass of brick lying on some masonry in the northern part of the tomb pit (pl. xlii), and also some brickwork at the south of the pit. These bricks averaged 18.3 inches long, 9.2 inches wide, and 5.1 inches deep, and were all made with straw. No mortar or mud was employed between each course of brickwork, but occasionally coarse sand was used as a packing.

Of the outer stone casing of the pyramid not a fragment was left, and I was therefore not able to ascertain its angle or its height.

We have therefore, on this site, the remains of a hitherto quite unknown pyramid, built of sun-dried brick, cased with limestone, and dated to the xiith dynasty, as I shall show later.

57. The large pit in the centre of the pyramid base was now attacked, and entirely cleared in the course of about three weeks' work. Owing to the character of the pit filling, we had to convey our stuff to a considerable distance on the eastern and western sides in order to prevent the loose sand

from either falling in or being blown back by the strong winds that prevailed at this time.

The upper portion of the pit was cut through a bed of hard fine sand about 55 inches deep. Immediately below this there was a stratum mainly consisting of small flint pebbles tightly packed together in concreted sand. This stratum lay on a soft clayey rock, in which were built the sarcophagus and chambers of the tomb.

The builders, when excavating the pit, effectually disposed of the upper and softer debris, but the hardest and lowest stratum was thrown out to the south and west of the pit, just outside a trench cut for the wavy wall.

Prior to the excavation of the pit we had no clue as to the whereabouts of the entrance passage of the tomb, and the northern portion of the cutting was first cleared in the hope of finding this. After reaching a depth of about 108 inches, large roofing blocks of limestone were met with, and eventually a series of partially destroyed chambers was cleared, which showed us that the entrance into them did not lie on this side of the pyramid.

As the loose sand gave us so much trouble, I decided to clear the whole of the pit at once, instead of in sections, and we eventually came upon a wrecked entrance passage at the south of the cutting.

58. THE ENTRANCE PASSAGE. This passage was 225 inches long, $35\frac{1}{2}$ inches wide, and descended north at an angle of $22^{\circ} 30'$. It was fitted nearly the whole of its way with shallow steps 4.2 inches deep, and 14.6 inches wide. A smooth piece of paving was left on both sides of the steps, 10 inches at the west, and 10.9 inches on the east (pl. xxxix B). The steps were cut in the paving, and not built in.

The western side of the passage, for 76 inches from the south, was found to be entirely destroyed; but after this, one course of walling remained standing, $23\frac{1}{2}$ inches high. The eastern side was demolished for nearly its entire length, and only the marks on the paving of where it once stood gave me the proper width of the entrance. The portion of the passage provided with steps was 192 inches long; at the end of these there was a slight drop of 5 inches, and the way continued level with a plain paving for 33 inches further. A small chamber was then entered (pl. xxxix (C)), 55 inches long N. to S. and 45 inches wide E. to W., forming part of a portcullis chamber, the upper portion of which was entirely missing.

The portcullis of red granite (section II, pl. xxxix)

(D) was quite intact, and was found lying across the chamber, E. to W., partially closed. There was a space of 14 inches for the portcullis to traverse before it would have been quite home. The two ends of the block were resting on a limestone bed (pl. xxxix (E)) that inclined from east to west. Its northern edge lay on a portion of a granite slab, the southern top edge of which was cut away at an angle $4^{\circ} 15'$ to agree with the slope of the limestone bed of the portcullis, and thus form a slide (pl. xxxix (F)).

The dimensions of the plug block were $103\frac{1}{2}$ inches long, $58\frac{1}{2}$ inches wide, and 57 inches deep. All four sides, as well as the top, were carefully hammer-dressed, but exceptional care was taken with the under side of the stone, the surface being very smoothly worked.

The granite slab (pl. xxxix (E)) was 100 inches long, and 29 inches in thickness. On its southern side the groove, or step, on which the plug block rested was 5 inches wide. This acted as a support for the portcullis until it had cleared the space occupied by the passage running through the chamber. The portcullis block was just of sufficient length to permit of its western end resting on the bed prepared for it, before there was any tendency for the block to cant into the passage or run askew.

The passage of the tomb then continued due north by mounting the granite slide and entering another passage at a higher level. It would, of course, have been quite impossible to have done this in the ordinary way without cutting through the plug block. Owing however to the wrecked condition of the upper part of the chamber, we were able to surmount the stone which was lying open to the sky, and trace the continuation of the passage north without difficulty.

The method thus employed in closing the entrance of this tomb shows much ingenuity, for any serious attempt to cut away the sides of the plug chamber in order to force a passage would result in the portcullis block falling on the breaker-in. Also any attempt to break up the slide (F) would be rendered very difficult owing to the hardness of the stone employed. The limestone bed on which the eastern end of the portcullis rested was provided with a wide and shallow groove running down its axis in order to minimise friction when moving the block. This groove was but irregularly made, and had been cut after the bed was built.

It is difficult to understand how the portcullis

was moved, as there was no room in its chamber for anybody to get behind it, or at its sides. The only method that seems to be possible was to insert levers beneath the stone at the front, and thus gradually jerk the block into place.

59. The sides of the second passage north of the portcullis chamber were but one course high, the roofing and upper courses having been removed (pl. xxxix (G)). The angle of descent for 110 inches of its distance was 18° . This portion was fitted with 8 steps cut in the middle of the passage, $15\frac{1}{2}$ inches wide, and averaging 4.4 inches in depth. On both sides of the steps, that is at the east and west, there was a plain slope, 10.6 inches in width. The remaining portion of the passage after a drop of 5 inches was straight, 33 inches long and $35\frac{1}{2}$ inches wide. This entered a second portcullis chamber 55 inches long \times 45 inches wide, the granite plug block of which was open (section III, pl. xxxix (H) (J)). The dimensions of this portcullis are $104\frac{1}{4}$ inches long, $62\frac{1}{2}$ inches wide, and 57 inches deep, being practically of the same size as that belonging to the southern portcullis chamber. There was very little difference between the two compartments, except that the northern portcullis chamber was placed on the west of the passage, whereas the southern one lies at the east. The sides of the chamber stand $30\frac{1}{2}$ inches, or one course high, all stonework above this point having been removed. The thickness of the stonework employed in the eastern and western side walls is 49 inches.

The granite slide block (pl. xxxix (K)) at the north of the chamber measures 95 inches long, $28\frac{1}{2}$ inches thick, and stands $30\frac{1}{2}$ inches high from the pavement. The base of this block is set considerably below the level of the pavement. The inclination of the step in the slide is from west to east, the angle of descent being $6^{\circ} 15'$. The width of the step is $7\frac{1}{2}$ inches, being much wider than that at the south. The portcullis block and the remains of its chamber are shown photographed in pl. xliii.

60. LONG EASTERN PASSAGE. The continuation of the passage north of the plug-chamber was found entirely wrecked, even the paving blocks being removed in places. There were slight indications, however, that it was short and that it entered a chamber now entirely destroyed, which is shown in broken lines at pls. xxxix, xl (L).

At the east of this chamber there was a drop of 40.9 inches into a large passage running north (sect. IV, pls. xxxix, xl (M)). This passage at its eastern end had its side walls complete with the

exception of one course of stone. The entrance into it was facilitated by two steps, one measuring 16.7 inches \times 13.7 inches \times 4.0 inches deep was cut in the paving of the wrecked chamber (L). The other step, approached endways, consisted of a long block of stone placed against the southern wall of the passage, exactly fitting its width and measuring 8.0 inches wide, and 19.8 inches deep. There was a narrow bench or shelf on the southern and eastern sides of the passage at this point, the side walls being set back for the purpose. These were the same height, *viz.* 40.9 inches, as the pavement of the destroyed chamber (L). The width of this bench was 8.7 inches to 9.0 inches on the east, and 6.0 inches to 6.3 inches on the south.

61. The passage was 405 inches in length and 42.6 inches wide, and complete with its roofing blocks with the exception of its extreme ends. The roofing blocks numbered six in all, the joints being very closely fitted. These were not all at the same level on the under side, for there was an unusual feature in the roof: a recess, a heightening of the passage, 162.6 inches long in the middle. The height of this recess was 5.4 inches at the north, and 7.4 inches at the south, the width being the same as that of the passage.

Continuing along the passage, a flight of steps was met with at the north that led up to a long chamber running due west (sect. V, pl. xl (N)). The height of the pavement of this chamber from the pavement of the passage was 35 inches. East of the steps at this point was a shelf 68.8 inches high above the paving, and 9.7 inches wide. The total height of the passage here was 113 inches, all the side walls being intact, the roofing blocks alone having been removed. The steps were three in number, the depths as one ascends being $7\frac{1}{2}$, $9\frac{1}{4}$, and 10 inches. These were constructed after the passage was finished. The second step had a joint in it, that was formerly keyed by dovetailing the stones on each side of the joint, and then inserting a piece of wood as a dovetail feather (pl. xliv).

The measurements of the long eastern passage are:

Width, north,	43.1 inches top,	42.6 inches base.		
„ middle,	42.6	„ „ 42.6	„ „	
„ south,	42.2	„ „ 42.2	„ „	
Height, north,	59.9 inches east,	60.1 inches west.		
„ middle,	64.2	„ „ 64.3	„ „	
„ south,	56.0	„ „ 55.7	„ „	

The great increase of height in the middle is of course due to the recessing of the roof.

The walls of the passage are of three courses of stone, that measure :

East wall: base course 20·9 inches, middle 25·2 inches, top 19·1 inches.

West wall: base course 20·9 inches, middle 22·0 inches, top 22·3 inches.

The sizes of the stones used in the courses are 65·3 inches long \times 22 inches wide, 73·4 \times 22, 64·4 \times 20·9, 74·8 \times 25·2, 65·1 \times 19·1, 77·8 \times 19·1, 78·4 \times 19·1, 62·7 \times 19·1, 68·2 \times 25·2.

The floor of the passage was but roughly dressed, the stones run in under the side walls. On the whole, the workmanship of the passage was fairly good, the walls and roofing blocks being smooth, and the joints of the stones closely set. Though so much was wanting when the test of the measuring rod was applied, yet to the casual eye the impression was good.

62. FIRST FALSE PASSAGE (sect. VI, pl. xl (O)). On the western side of the passage 157½ inches from its northern end there was a well in the pavement projecting into the corridor for 22 inches. On investigation this proved to be part of a short passage running west, the end of which was blocked by a quartzite slab. This we first thought to be the side of a concealed sarcophagus, but it afterwards proved to be a separate block of stone, 35 inches long, 13½ inches wide, and 37½ inches deep. The dimensions of the passage were 135½ inches long, 29 inches wide, and 36 inches high.

The base of the quartzite slab was not resting on the same level as the floor of the passage, for a recess was cut in the paving 14 inches long and 4·3 inches deep, east of the end of the passage, to take it. The well, by which this false passage is entered, was formerly closed by a thin slab of stone cemented into ledges cut into the pavement to receive it (pl. xlv). The recesses were very irregularly cut and are 1¾ inches deep. The side walls of the passage are of two courses of stone, the blocks of which could not be measured owing to their being thickly incrustated with lime. The roofing blocks are two in number. The finish of the masonry was also very good here, the final touches being done with a pointed chisel, the marks of which all lie at an angle showing that an edge was not employed.

The pavement of the passage was of rough workmanship and composed of large blocks of stone, upon which the side walls rested. The eastern or well end

of the pavement was one stone with the bottom portion of the three sides of the well. The surface of this stone was dressed with a chisel 7 inch in width.

The complete dimensions of the passage are :

Width, entrance,	28·7 inches top,	28·3 inches base.
" middle,	28·5 " "	29·0 " "
" west,	27·8 " "	27·7 " "
Height, entrance,	36·0 " north,	35·8 " south.
" middle,	36·3 " "	36·4 " "
" west,	36·2 " "	36·0 " "

63. *Great Northern Chamber.* This chamber was complete with the exception of three of its roofing blocks, portions of which remain on its northern side wall (sects. V and VI, pl. xl (N)). The dimensions of the chamber were 354½ inches long, 84 inches wide, and 64·8 inches high. Bisecting it in the middle was a passage that will be dealt with under a separate heading. The roofing blocks, when all of them were in place, numbered nine in all, and measure 176 inches long, 19½ inches to 47½ inches wide, and 66 inches high. The side walls of the chamber were very carefully finished, the joints of the stones being under 1/16 inch in thickness. The dressing was completed with the aid of a pointed tool, the strokes always running from left to right. This left a groove in the surface of the stone 1 inch wide, and averaging 9 inch deep. After the walls had been finally finished a thin coating of plaster was applied to the stone.

There were indications that the chamber had been filled with small blocks of loose masonry, for many of these were found in the course of clearing. These were regularly shaped, and were far too small to have been abstracted from any part of the tomb.

A drawing in charcoal was seen on the southern side wall of the chamber at its eastern end. This was about 7 inches below the roof and apparently represents a royal personage lying on a bier. The drawing is of later date than the tomb, for some of the plaster had fallen from the wall when it was done, and the lines cover both stone and plaster (pl. xlv).

The thickness of the stonework comprising the northern and southern side walls of the apartment was 50½ inches and 41½ inches respectively. The sizes of the stones used in the construction of the chamber are: 83·1 inches long \times 44·1 inches wide, 82·4 inches \times 54·6 inches, 56·4 inches \times 22·5 inches, 47·4 inches \times 22·5 inches, 63·5 inches \times 27·0 inches, 36·5 inches \times 54·9 inches, 64·2 inches \times 34·1 inches.

The full dimensions of the chamber are :

Length : north, 354'3 inches ; south, 356'0 inches.
Width : east, 84'8 inches ; west, 83'0 inches. Height :
N.E. corner, 63'9 inches ; N.W. corner, 64'8 inches ;
S.E. corner, 65'2 inches ; S.W. corner, 65'5 inches.

Width of roofing blocks from the west, 46 inches,
47½ inches, 41 inches, 46½ inches (?), 38½ inches (?),
29 inches, 45 inches, 19½ inches, 41½ inches (?).

64. SECOND FALSE PASSAGE (sect. VI, pl. xl (P)). This passage was built in the middle of the great northern chamber, the entry into, and out of, it being effected by three steps at the north. Two of these were cut in the paving of the apartment on both sides of the passage, and average 12'6 inches × 13'4 inches × 5'2 inches deep. Below these there was a step resting on the pavement of the passage measuring 41'7 inches long, 12'9 inches wide, and 11'9 inches deep (pl. xlv). The measurements of the passage were 82'3 inches long × 41'7 inches wide. Its depth was 33'6 inches below the pavement of the chamber in which it lay. The southern end of the passage was stopped by a large quartzite block that lay across its end. This block was 102 inches wide at the base, and was 5 inches lower than the pavement of the passage. The height of the stone was 50 inches above the pavement, both sides sloping towards its top, which was 62 inches wide. The meaning of this block will be dealt with later under another heading.

65. THIRD FALSE PASSAGE (sect. VI, pl. xl (Q and R)). In the south-west corner of the great northern chamber there was a well in the paving 34 inches N. to S. × 33½ inches E. to W., and 36 inches deep. This formed part of a passage 33½ inches wide that ran south for 144 inches. At the southern end of this there was another well 37½ inches deep entering a passage that turned at right angles to the east. This further passage was 124 inches long, 30½ inches wide, and 37½ inches high, and was stopped at its eastern end by a quartzite block similar to that present in the first false passage (R). Also for 13'3 inches before the block was reached there was a drop in the pavement 6'7 inches deep. The quartzite block measures 35 inches long, 13½ inches wide, and 41½ inches high.

The roofing of passage (Q) was of three blocks of stone, the under surface roughly hammer-dressed and small excrescences taken off by means of a pointed tool. The pavement blocks were not well dressed, only the hammer being employed for smoothing the stones. The side walls of the passage, two courses in height on the western, and one + two courses on

the eastern side, were built of comparatively small stones. That could not be measured, however, owing to a coating of lime that covered them. The roofing of passage (R) was also of two blocks of stone, the number of courses in the side walls being two.

The dimensions of the two passages are as follows :

Length (Q) on eastern side, including wall, 143'6 inches.

"	"	"	western	"	"	143'7	"
Breadth,	north,	33'2	inches top,	31'6	inches base.		
"	middle,	33'8	"	"	32'0	"	"
"	south,	33'7	"	"	31'6	"	"
Height,	north,	43'0	"	east,	43'2	"	west.
"	middle,	43'4	"	"	43'4	"	"
"	south,	42'7	"	"	43'5	"	"

Length (R) on northern side, 92'5 inches.

"	"	"	southern	"	92'6	"	
Breadth,	east,	30'7	inches top,	30'6	inches base.		
"	middle,	30'8	"	"	30'7	"	"
"	west,	30'1	"	"	31'5	"	"
Height,	east,	37'1	"	north,	36'3	"	south.
"	middle,	37'6	"	"	37'4	"	"
"	west,	37'6	"	"	37'6	"	"

In the northern portion of passage (Q) there was found a large alabaster jar in fragments, together with three limestone vessels. The jar was 18 inches long, and 9½ inches at its widest part. The width at the brim was 4¼ inches. It had been purposely cut vertically in half together with its lid, for what object it is not easy to discover. It is possible that the vessel was intended to hold a heavy viscous matter which could not be poured into the jar when whole. If this be the case, each side of the jar must have been filled separately and the two pieces clapped together and secured with thongs. Similar vessels are well known in the xiith dynasty, and take the form of a trussed duck. In the vase before us the limbs of the duck are just distinguishable in a shallow ridge running down each side of the jar. A flaw in the alabaster when working the jar was remedied by cutting a circular hole in the stone and then inserting a small piece to fit (pl. xliii). The limestone vessels shown in two positions on pl. xlvi are difficult to understand, for they could hardly have been used for offering vessels. Prof. Petrie suggests that they might have been employed as lamps. The middle well of the vessels would hold the oil and the floating wick, while the outer portion would be filled with water in order that the liquid might saturate the stone and thus prevent the oil from soaking away.

One of the jars has, on the side of its well, a black

mark that might well have been produced by a flame. Corroboration of this view is given by the photograph below them (on pl. xlv) showing the upper portions of a series of fire altars, the tops of which agree very closely with the three vessels found in this tomb.

66. THE SARCOPHAGUS CHAMBER (sects. VI and VII, pls. xl, xli). This was situated south of the great northern chamber, a thickness of $41\frac{1}{2}$ inches of stone walling separating the two. Its condition when found was very ruinous, for all of the roofing blocks, as well as its southern end, had been entirely removed. The northern end of the apartment was quite intact, and forms part of the southern wall of the great northern chamber.

The length of the chamber, if we are to take the supposed wall (pl. xl) to be correct, is 161 inches long N. to S. and $113\frac{1}{2}$ inches wide E. to W. The roofing took the form of a pent-roof, the marks of this being clearly distinguishable on the stonework of the northern end wall. These marks are shown on the plan in thickened lines, and some may be seen in the photographs of this end of the chamber (pls. xl, xliii). The height of this pent-roof above the sarcophagus must have been, when intact, $163\frac{1}{2}$ inches.

The sides of the chamber only rose $42\frac{1}{2}$ inches above the top of the sepulchre, there being nothing in the nature of a pavement except the top of the sarcophagus and two slabs of quartzite that are placed east and west of it. These two slabs are the two blocks that bar the western and eastern ends of the first and third false passages.

The sarcophagus was hewn out of a single block of red quartzite, 84 inches wide, and was placed squarely in the axis of the chamber. The total length and depth could not be ascertained owing to the masonry surrounding it. I have therefore represented on my plan (pl. xli) that the width from the inner to the outer face of the sarcophagus at the north and south is the same as that on the east and west, namely, 18 inches.

The inside measurement of the sarcophagus at the top is $131\frac{1}{2}$ inches long \times $45\frac{1}{2}$ inches wide. Seventeen inches below this the sarcophagus narrows, a place being cut at its northern end to receive a coffin. This receptacle measures $94\frac{1}{2}$ inches long, $35\frac{1}{2}$ inches wide, and $41\frac{1}{2}$ inches deep. At the south of the sarcophagus there was a square hole $28\frac{1}{2} \times 28\frac{1}{2} \times 28\frac{1}{2}$ inches provided to take a set of canopic jars (pl. xli). The accuracy and finish of the burial place were very poor in comparison with the fine work of the Hawara pyramid, the errors in

cutting amounting in some instances to more than half an inch. The surface in every part was but roughly ground down, the corners being rounded off.

The sarcophagus was intended to have been covered with two roofing blocks of rough quartzite. One of these was properly in position on the southern end, but the northern block was not in place, and partially rested on the edge of the sepulchre. The northern roofing block is the stone that bars the southern end of the second false passage, and is 79 inches long from N. to S. It projects into the great northern chamber for two inches, and extends nine inches beyond the north end of the sarcophagus. The southern side wall of the great northern chamber (N) thus improperly included this block in its masonry (pl. xli). The height of the cover-slab above the pavement of passage (P) at the north was 50 inches, and at the south from the top of the sarcophagus $37\frac{1}{2}$ inches. The upper portion of the stone thus slanted down towards the south. The southern cover-slab was 88 inches long E.-W., and 83 inches wide N.-S. It was united to the sarcophagus by rough mortar, the northern block being uncemented. The lower portion was hollowed out, perhaps in order to provide extra space over the well for the canopic jars. The width of this hollow is the same as that of the upper part of the sarcophagus, the height being 17 inches. The stone here was very roughly dressed, and big flaws now appear that were formerly concealed by plaster. The form of this sarcophagus and its lids is exactly like that of the same period found by Mr. Weigall at Abydos (Abydos III, pl. xxxviii).

The sarcophagus when unearthed was found filled with rough mud mixed with sand, the result of some of the pyramid bricks being washed in by storms. Nothing was found inside except a fragment of a small alabaster kohl pot, and a piece of glazed steatite inlay, half an inch square. It is regrettable that no bones were found, as they might have assisted us as to the sex of the person for whom the tomb was built.

The dimensions of the sarcophagus are :

Receptacle for coffin : east, 94'9 top, 95'6 bottom.

" " " west, 94'5 " 95'7 "

" " " north, 35'6 " 35'7 "

" " " south, 35'6 " 36'4 "

Depth of N.E. corner 41'0 inches, N.W. 41'2, S.E. 41'7, S.W. 41'7.

Receptacle for canopic jars, N. 28'6, S. 28'7, E. 28'3, W. 28'3.

Depth of N.E. corner 28'0 ins., N.W. corner 28'5.

„ „ S.E. „ 28'2 „ S.W. „ 27'6.

Depth from top of sarcophagus to top of receptacle for coffin, N.E. corner 17'4 inches, N.W. 17'0 inches, S.E. 17'4 inches, S.W. 16'9 inches.

67. THE WAVY WALL (pls. xxxix, xlv). This wall was discovered in the earliest part of our work on the pyramid site, the south-west corner being uncovered first, and found to be standing about 36 inches high. From this point the wall was traced along its southern side, and the south-east corner unearthed. Here the corner was found to be almost entirely denuded away, and we were only able to trace its outline by a slight coating of mud upon the gravel. From here the eastern side of the wall was in a much better condition, portions of it standing over 48 inches high. The north-east corner was then easily reached, and was seen to be in no better condition than the south-east, but nevertheless easily traced. The northern side of the wall was then found for about half its total distance, the rest having entirely disappeared. On the west but little of the wall remained, a small portion at the S.W. being all that was left.

The width of the enclosure wall was uniform throughout, being 41½ inches thick. Such wavy walls are only known at present in the xith and xiith dynasties, a notable example being a wall across the temenos of the tomb of Senusert III at Abydos (*Abydos III*).

Two sizes of bricks were used in the Mazghuneh wall, averaging 12'0 inches × 6'2 inches × 3'7 inches and 12'7 inches × 6'7 inches × 4'2 inches. They were made without the use of straw, of good firm mud mixed with coarse sand. The majority of the bricks were laid on their sides in regular courses of stretchers, but in some parts of the northern wall the bricks were laid on their edges, headers being in no case employed.

It was possible to measure the angles of three of the corners; the sum shows the N.W. corner. These are N.E. 92° 42', N.W. 88° 48', S.E. 87° 23', S.W. 91° 5'. The wall was beautifully built, each side being very even and the bays regular. The average distance from head to head was 146 inches, and the depths of the bays 41 inches.

Both faces of the wall had a thin plastering of mud, upon which was laid a coat of white stucco. The dimensions of the sides are: N. 3060 inches, S. 3008 inches, E. 3016 inches, W. 3017 inches (?).

A curious feature was a trench 86 inches wide and

24 inches deep that was cut to receive the foundations of the southern portion of the wall. Though I searched for similar trenches on the other three sides, none could be found. Apparently the trench was cut through a piece of high ground at the south in order to obtain a uniform level for the wall.

At the eastern end of the southern wall 740 inches from the S.E. corner a flat piece of walling was found 288 inches long, and 24 inches thick, each end of which was connected with the wavy wall. After both sides of this had been cleaned, an entrance 146 inches wide in this flat wall was discovered blocked up with brickwork (pl. xxxix (T)). When the bricks had been removed from the doorway, a chamber 296 inches long N.-S. and 270 inches wide E.-W. was entered, with another doorway at its northern end. The second doorway was 156 inches wide, and led into the pyramid enclosure.

The thickness of the side walls of this chamber was 24 inches. The western wall stood about three feet high, its bottom courses being perfect throughout its entire length. The eastern wall did not stand so high, and its southern portion was missing. On the east of the chamber were the remains of a second one that measured 104 inches wide. The length could not be determined owing to its southern end being demolished. The entrance into this second chamber (pl. xxxix (V)) must have been from the first one, but no trace of it could be found. The thickness of the north wall of the first chamber was 37½ inches and it stood about 48 inches high. Its two faces as well as the sides of its jambs were plastered and whitened, as was the case with the inside faces of the two chambers.

It is evident that the true entrance into the pyramid enclosure was by means of the entrance (T) and the doorway (U) beyond. When the pyramid was abandoned the entrances were then blocked up with brick, or it is possible that this might have been done in a later period when the pyramid was being destroyed in order to prevent unauthorized people taking away stone or brick.

Two sizes of bricks were used in the construction of the chambers. These are 12'1 inches long × 6'2 inches wide × 4'3 inches deep, 11'5 × 5'8 × 3'5. It will be noticed that none of these sizes agree very closely with those in the wavy wall.

The whole of the ground round about this spot was covered with a thick layer of limestone chips suggesting that it was from here that the pyramid casing was brought out for transport. Just outside

the wavy wall we succeeded in recovering four pieces of limestone, with Middle Kingdom inscriptions upon them. All these have been examined by Mr. Alan Gardiner, who reports that they are very illegible owing to weathering.

The following are his translations :

(1) (Facsimile, pl. xlv). "Year 2, third month of summer (Epiphi), day 2. Brought by Onkhu—."

(2) "Year 3—brought by Onkhu."

(3) (Facsimile, pl. xlv). "Year 3, fourth month of summer (Mesore), day 7. Brought by Onkhu—."

(4) "Year — third month of summer, day 26. Brought by Sonb—."

These dates correspond with September and October in the Thoth year, or a month earlier if the Mesore year was used.

68. The PYRAMID CHAPEL (pls. xxxix, xli, xlv). In the eastern portion of the wavy wall lies the chapel of the pyramid, built of sun-dried brick. Only the lower part of this remains, but what is left is in fairly good condition.

The southern wall of the chapel is 1209 inches from the S.E. corner, and the distance of the N.E. corner from the northern wall 1191 inches. The chapel is therefore not exactly central, but 18 inches nearer to the N.E. corner.

The design consists of a large central chamber, entered from the east. North and south of this are four additional apartments. The two at the south communicate with the central chamber, and the remaining two are entered from the north. At the south-western corner of the central room is another apartment that was formerly roofed with a vaulting of brick. A portion of this was still in position when found, but collapsed before it could be photographed or measured. The thickness of the walls of the chapel was 28 inches, the northern and southern ends of the wavy wall being built against the two ends of the chapel. There was no sign of bonding between them, and it might therefore be that the chapel was finished before the ends of the wall were completed.

The pavement of chamber (W) was 38 inches lower than the bottom of the wavy wall. The measurements of the bricks used in the building are of four sizes, averaging 11.9 inches long \times 6.0 inches wide \times 3.9 inches deep, 12.4 \times 6.3 \times 4.3, 13.5 \times 6.0 \times 4.5, 14.9 \times 8.0 \times 3.7. These were made of mud mixed with a little sand, no straw being employed.

We will now proceed with the chapel in detail. The central apartment (W) was 332½ inches long

N.-S., and 245 inches wide E.-W., the squareness of the walls being everything that could be desired. The paving was formed by one layer of brick placed on the *gebel*, which was then plastered with mud. The sides of the chamber vary greatly in height, the western portion being 108 inches, and the eastern, which was greatly denuded, 12 inches.

The entrance into the smaller apartment (X) on the western side was 34½ inches wide, the jambs of its doorway being fitted with ledges, 8 inches in depth on their northern and southern faces. These ledges are 26 inches from the pavement. The dimensions of the apartment are 157½ inches long E.-W., and 65½ inches wide N.-S. The spring of the barrel vaulting of brick was 32 inches from the pavement. The bricks, of which the former was constructed, were made with straw, and were of a larger size than the bricks used in the rest of the structure. The position of this apartment is curious, for one would expect either that it would be centrally situated in the western wall, or that there would be another one to correspond with it at the north. It doubtless was provided to receive the statue of the person for whom the pyramid was built. A strange feature was a rectangular brick barrier placed just in front of the entrance. This was nearly three courses in thickness and formed of a row of single bricks placed lengthways and lying on their sides. A portion of this barrier can be seen in the lower photograph on pl. xlv. The pavement of the apartment was practically destroyed, only a slight trace of it showing on its walls. The level was the same as that of chamber W.

The southern apartment (Y) was 245 inches long E.-W. and 86 inches wide N.-S. It was intended to be a single chamber, but subsequently was divided in the middle by a narrow brick wall 12 inches in thickness. The western wall of this chamber was also the best preserved, 11 courses of brick remaining, mostly laid on their sides and covered with a thick coating of whitened mud. The entrance to the apartment was found closed by a brick filling; the sizes of the bricks employed for this were of the same as those of the chambers. The two bottom courses of the western half of the room were laid on their edges forming a row of headers, the ground being lower at this point. The western half of the chamber was of the same level as chamber (W), but the eastern portion was 6 inches lower.

The two northern chambers (Z) deserve but little attention. That on the west was 111½ inches long

E.-W., and 83 inches wide N.-S. The entrance to this was from the eastern apartment by a doorway 41½ inches wide. The pavement of this was also one thickness of brick and stood at the same level as chamber (W). The eastern room was 6 inches lower and measures 105½ inches long E.-W. × 83 inches wide N.-S. The width of the doorway at the north was 38 inches.

69. LATER HISTORY. The space enclosed by the wavy wall was subsequently occupied by a very small xviiiith-dynasty cemetery of the date of Thothmes III. Every grave but one was found to have been robbed soon after burial, for only the head and upper portions of the bodies were disturbed, showing that the plunderers knew the profitable end of the grave in their search for valuables. Everything was taken by the thieves except pottery (pl. lii), scarabs (pl. l), and those kohl pots (pl. l) that were too much broken to be of value. Scarabs however were left behind for the reason perhaps that they would be too easily identified to be used again. The favourite places for the graves were either just inside, or outside the wavy wall, or they were dug at the bottom of the trench that was cut to take the bottom courses of the pyramid casing.

Two burials were found at the southern end of the tomb cutting and a few graves occur just round its edge. These prove that the core of the pyramid as well as its casing stones had been destroyed to the ground before the time of Thothmes III.

The one grave that was left untouched, as mentioned above, was found just inside the brick wall at the south-west corner. It contained the body of a middle-aged man placed in a roughly-made wooden coffin. No articles or pottery were found with the burial except a small wooden box standing at the head and containing a set of twelve draughtsmen.

Two limestone stools, one unfinished, were found amongst the chips that encumbered the eastern side of the base of this pyramid. These are shown with the draughtsmen on pl. xliii.

70. DATE. We now come to the question, For whom was the southern pyramid of Mazghuneh built? The reply must be either Amenemhat IV, or his sister and successor Queen Sebek-neferu, whose death ended the xiith dynasty. The former king followed his father Amenemhat III, whose pyramid tomb at Hawara was entered and identified by Prof. Petrie in the year 1889. That tomb agrees in many important respects with the tomb I have just described, but is, from its conception and fine work, the

earlier; and the southern Mazghuneh pyramid was merely a copy of it.

The chief points in common between the two pyramids are as follows:

1st. The stairways and the entrance on south.

2nd. The method of stopping the entrance passages by means of sliding plug blocks, of which the Hawara pyramid possesses three.

3rd. The presence of a long apartment at the north of the sarcophagus chamber, containing a central false passage, barred at its southern end by one of the roofing blocks of the sarcophagus.

4th. The existence of two false passages at a lower level on the east and west, the ends of which are blocked by the sides of the sarcophagus.

The only real difference between the plug chambers of the Hawara and Mazghuneh pyramids is that the plug blocks of the former were strictly horizontal, whereas those in the latter were set at an angle. Apart from this they agree in design though not in measurement. The difficulty of moving these blocks is shown by the fact that only the first block from the entrance passage in each pyramid had been closed.

The plug chambers of the Mazghuneh pyramid are certainly improved copies of those at Hawara, and therefore later. The angle at which the plugs lay would facilitate the closing of the passages beyond, as well as rendering it more difficult to move them back.

The entrance into the sarcophagus chamber of the Hawara tomb was by means of a passage, the southern end of which led by a well into a super chamber above the sepulchre. In this super chamber rested the northern roofing slab of the chamber in which the two sarcophagi were placed. This, when lowered into place, blocked the end of the passage, leaving a small space at the top to enable the workmen to escape. The passage was then blocked up with masonry in order to conceal it.

We have somewhat the same idea in the southern Mazghuneh pyramid. The passage marked P (pl. xl) corresponds with passage P in the Hawara tomb (pl. xli) and also led to the sarcophagus chamber. The item of a well at the bottom of this passage was omitted, as it was at a much lower level.

The sarcophagus was intended to be roofed by two slabs of quartzite, one of which, the southern, was in place and cemented down. The other had never been closed, and projected only 9 inches beyond the inner face of the sarcophagus (pl. xli). This block

was constructed so as to slide along on the top of the sarcophagus until it met its fellow at the south. There was plenty of room to allow the sealers of the tomb to effect this, as a gang could be engaged inside passage P to push the block, whilst additional help could be rendered inside the sarcophagus chamber. The workmen engaged in the latter task could easily escape when the sarcophagus was closed by an aperture in the south wall of the great northern chamber, just above the movable block. This aperture, as well as the space left at the end of the passage, would then have been sealed with masonry, so as to conceal all trace of the roofing slab and present a blank wall to a possible plunderer.

The fact that this tomb was not properly closed must have led to an early detection of the position of the sarcophagus. The thieves when they entered the great northern chamber must have been struck with the presence of the quartzite block in the southern wall, and found it a comparatively easy task to break through the $41\frac{1}{2}$ inches of limestone wall over it and so reach the burial chamber. My chief reason for supposing that this block had never been put into place was the great width of the opening. The difficulty in opening it so far would have been enormous in such a confined space as the sarcophagus chamber.

The sole object of the people who re-entered the tomb would have been to procure plunder, and by moving the block, say 28 inches instead of 52 inches, a space wide enough to admit a person would have been made.

The slope of the top of the roofing slab is difficult to understand. The surface here was extremely rough and the angle is not uniform. Small pieces of quartzite which must have come from this slab were found in the vicinity, and one can only suppose that attempts were made to remove or break up the block when the pyramid was in course of being demolished.

Neither is it easy to realize the meaning of the two false passages east and west of the sarcophagus. These were certainly filled with masonry in order to hamper investigation, but the presence of quartzite at their ends was bound to give a clue as to the whereabouts of the burial place.

There was an aperture of 2 to 3 inches between the tops of the quartzite slabs on each side of the sarcophagus and the roofs of the two false passages. These could not have been closed by the roofing slab, as the width of the latter was less than that of the sepulchre and slabs combined. It was probably

intended, when the sarcophagus was closed, to fill the space between the sloping sides of the roofing slab and the masonry that took the thrust of the pent-roof (pl. xl (S)) with stonework in order to conceal this defect. Otherwise the chamber above could easily have been entered in both passages by cutting away a small portion of the roof.

It must be regarded as certain that when the thieves broke into the pyramid they made their way direct to the great northern chamber, and thence into the sarcophagus. After doing this, they, or a later gang, found and examined the two false passages on the east and west, and, realizing what they were, left them alone.

We searched the ground over a large area inside and outside of the wavy wall in the hopes of finding royal catacombs such as are present near the southern brick pyramid of Dahshur. The desert was also carefully examined on the east as far as the cultivation in view of a pyramid temple or a causeway, but all with negative results. It is certainly strange to find this pyramid so isolated, for no trace even of a xiith-dynasty cemetery was found in the vicinity, despite the special efforts made in search of one.

CHAPTER XIV

THE NORTH PYRAMID OF MAZGHUNEH

By ERNEST MACKAY

71. A LITTLE over a quarter of a mile north of the southern Mazghuneh pyramid, and just opposite the Dahshur dyke, is a tract of desert close to the cultivation, covered with a thick coating of limestone chips. While we were engaged in testing the ground in search of traces of a building, a villager informed me that beneath the rubbish lay a very large tomb, which had been entered by M. de Morgan about twenty years ago. Gathering from the man that the tomb had not been measured, but merely examined, I decided to open it again, with the result that it proved in many important respects to be unlike any other known tomb.

Work was first started by cutting a series of trenches from without the four sides of the *débris*-covered site to its centre, in the hope of finding traces of a pyramid; however not a single block of stone was met with *in situ* above ground, and the destruction of the pyramid or superstructure seems to have been quite complete. The whole site however could

not be examined, owing to the presence of a small Coptic cemetery that lies in the middle of it.

During our work on one of the trenches east of the site we came across a sloping passage, fitted with steps, that ran due east; and this led by a complex series of passages and chambers to an empty sarcophagus chamber. A pyramid with an eastern entrance is quite unknown, and with this in view I searched the ground on both sides of the beginning of the passage for an additional way that might lead from the north or the south.

A portion of such a passage was discovered at the north of the present entrance, but owing to its mutilated condition it could not be traced for any distance (pl. xlvii (A)). This passage probably took a right-angled turn to the west until the centre of the pyramid was reached, followed by another turn to the north until it reached the open air.

Owing to the lack of ventilation in the tomb, I was unable to measure one or two of the chambers with the accuracy that could be desired. The air inside was indeed so bad that our candles and lamps could not be induced to burn properly, and this hindered our work to a marked degree. The roofing blocks of the whole tomb were quite complete, and on these rested many feet of sand and rubbish. On top of this again was the cemetery, the last burial in this being twenty years ago.

72. PRESENT ENTRANCE PASSAGE. Pls. xlvii (A). The portion of this passage was 38 inches wide and $179\frac{1}{2}$ inches long, as far as it could be measured. It was provided with ten steps averaging 21 inches wide, 17 inches deep, and $3\frac{3}{4}$ inches high. On each side of the steps there was a plain slope of paving $8\frac{1}{2}$ inches wide. The form of its northern end suggests that a right-angled turn was taken to the west. The southern end of the passage had a portion of its side walls remaining; these were about 60 inches high. The passage was built on a slope, the inclination being $25\frac{1}{2}$ inches in 50 inches base, or 27° .

At the south end of the steps there was a drop of $6\frac{1}{2}$ inches on to a platform $102\frac{3}{4}$ inches long east to west, and 32 inches wide north to south. Beyond this was another drop into a sloping passage running due west (pl. xlvii (B)). A platform similar to the first was placed on the southern side of this.

Passage (B) was quite complete, with the exception of two of its roofing blocks at the eastern end. The angle of its slope was $13^\circ 30'$, and it was fitted with thirty-one steps that average 21 inches wide,

15 inches deep, and $3\frac{1}{2}$ inches high. These steps were cut in the paving, and not built. There was a plain length of paving for 149 inches from its eastern end, and also a strip of smooth paving, $8\frac{1}{2}$ inches wide, down each side of the stairway. The number of roofing blocks in position was thirteen, and these are in width from top to bottom as follows: 35 inches, 37, $38\frac{1}{2}$, $38\frac{1}{2}$, $39\frac{1}{2}$, 47, 45, $43\frac{1}{2}$, 42, 42, 44, $44\frac{1}{2}$, $53\frac{1}{2}$.

The masonry work of these and the side walls of the passage was very good, the joints being set very close. On the southern wall of the passage close to the entrance were two charcoal drawings. These are shown on pl. xlix (bottom). Owing to its proximity to the open air I was enabled to measure this passage to a tenth of an inch, and its dimensions are as follows: Vertical height of entrance, 75.9 inches north wall, 76.4 inches south wall; height of middle 75.5 inches N., 76.0 inches S.; height at west end 74.9 inches N., 75.6 inches S. Width of entrance, east: 38.6 inches bottom, 38.4 inches top; middle 38.6 inches B., 38.5 inches T.; west 38.4 inches B., 38.5 inches T.

The height and width of the passage thus agree with the entrance passage of the Hawara pyramid.

At the western end of the steps there was a slight dip of $5\frac{1}{2}$ inches, and the passage continued with a plain paving for 175 inches further. The eastern half of this plain paving was set at a slight angle. The passage here was intended to be closed by a door, the sockets for which were found in the paving and roof on the northern side of the passage. Another socket for the bolt of the door is cut in a slight recess on the southern side of the passage, $39\frac{1}{4}$ inches above the pavement (pl. xlviii).

73. FIRST PLUG CHAMBER (pls. xlvii, xlviii (C)). The end of the passage entered a chamber $77\frac{1}{2}$ inches long E.-W., and $63\frac{1}{2}$ inches wide N.-S. (floor level). Its height was $149\frac{1}{2}$ inches. On the north of this there was a recess, 64 inches from the floor, which held a large plug block of quartzite roughly dressed, measuring 177 (?) inches long, 79 inches wide, and $70\frac{1}{2}$ inches high. The length, width, and height of the recess was 117 (?) inches, 84 inches, and 85 inches at its southern end. The length of neither the recess nor the plug block could be very accurately found, owing to the latter occupying all the available space of the former. The pavement of the recess upon which the portcullis or plug block rested, was built on a slant of $5\frac{1}{2}$ inches in 50, the incline being from north to south.

The plug block was found open, and had never been moved since it was placed in the recess prepared for it. Part of its western edge was resting on a quartzite slide, on which it was intended to be slipped down. A portion of this slide forms part of the pavement of the passage (D) west of it, which was $64\frac{1}{2}$ inches above the paving of chamber (C). Sections showing the plug block in its present condition, and also closed, are shown on pl. xlviii. The quartzite stone is shown in every case by shading.

It will be seen that the chamber agrees in design with the portcullis chambers in the southern Mazghuneh pyramid. The short passage on the west of the chamber (pl. xlvii (D)), was $62\frac{1}{4}$ inches long, and 38 inches wide. Its pavement was not horizontal, but dipped $7\frac{1}{2}$ inches to the west, with a slope through its entire length. The height of the passage therefore was 55 inches at the east, and $62\frac{1}{2}$ inches at the west. The roof was constructed of a solid block of quartzite, the ends of which are seen as lintels in chambers (C) and (E).

After leaving the passage, the chamber (E) was reached. It was covered with three roofing blocks, $30\frac{1}{2}$, $66\frac{1}{2}$, and $115\frac{1}{2}$ inches in width, the slabs being placed from E. to W. The dimensions of the chamber are: north side, 93.8 inches bottom, 94.8 inches top; south side, 93.8 inches B., 95.0 inches T.; east side, 116.3 inches B., 116.0 inches T. The height taken at the corners are: N.E. 93.5 inches, N.W. 93.2, S.E. 93.8, S.W. 93.2.

In the S.W. corner of the chamber was the doorway of a passage 58 inches long, 38 inches wide, and 83 inches high. This doorway was surmounted by a lintel block of quartzite, the exposed face of which was $69\frac{1}{2}$ inches long and $30\frac{1}{2}$ inches high. A roofing block and the western side wall of the chamber prevented full measurements being taken of the stone.

74. SECOND PLUG CHAMBER (pl. xlvii. (F)). On leaving this passage a second plug chamber was entered, $69\frac{1}{2}$ inches long, 60 inches wide at pavement level, and $147\frac{1}{2}$ inches high. East of this chamber, 57 inches from the pavement, was a recess 117 inches \times $76\frac{1}{2}$ inches \times $90\frac{1}{2}$ inches. This held a quartzite plug block of a smaller size than the one in chamber (C), the dimensions of it being $116\frac{1}{2} \times 66\frac{3}{4} \times 70\frac{1}{2}$ inches. The stone, which was but roughly dressed, was found in its original position. In the block are a number of big flaws that were originally filled in with plaster.

The form of the chamber is similar in every way to chamber C, and therefore does not need to be described in full.

The length of the plug block and its recess I was able to measure, as the S.W. corner of the chamber C was partially destroyed, and admitted entry to the back of the recess of the second plug chamber.

The way into the tomb from this apartment was by means of a short passage (G), $62\frac{1}{2}$ inches long by $38\frac{1}{2}$ inches wide. The pavement of this at its northern end was $56\frac{1}{2}$ inches above the floor of the plug chamber. The height of the passage was 58 inches at the north, and $53\frac{3}{4}$ inches at the south. The difference in height is accounted for by the floor sloping towards the north, with an opposite inclination to that of the passage (D). The roof was a single block of quartzite well dressed on its under side.

North of this passage was a large chamber (H), 194 inches long, 99 inches wide, and 84 inches high. The pavement of this had been torn up in places by searchers for a non-existent hiding-place beneath it. West of this apartment was a stairway that entered a long corridor (J) running due north. The level of the first step was 29 inches below the pavement of the chamber; the drop was rendered less difficult by two narrow steps, $19\frac{1}{2}$ inches wide, cut in the paving on the southern side of the chamber. At the west of the stairway was a narrow bench $11\frac{1}{2}$ inches deep, the western wall being set back for the purpose. This was $1\frac{1}{2}$ inch higher than the pavement east of the steps.

The inclination of the stairway was 22 inches in 50 base, or 24° , the steps averaging $16\frac{1}{4}$ inches wide, 16 inches deep, and $6\frac{1}{4}$ inches high. They were cut in the floor and not built. The plain strip of paving on each side of the stairway was $8\frac{3}{4}$ inches wide. The top step was plain and $23\frac{1}{2}$ inches deep. There is some doubt about the bottom step, as a large piece of paving from the chamber above was tightly wedged here, and I could not get the stone removed to examine the step beneath. The long corridor (J) was 328 inches long, and roofed with eight blocks. These measure from the north 43, 43, 40, $39\frac{1}{2}$, $39\frac{1}{2}$, 42, 43, and 37 inches. The side walls were of two courses, the stones being very finely fitted. Measurements of the passage could not be taken at its southern end, for we could not reach this, as the block of stone was lying at the foot of the stairway. The dimensions of the middle and northern end are here given: height and width of passage, 66.7 east, 66.7 west,

39.0 bottom, 38.9 top; north end of passage, 66.8 east, 66.6 west, 38.2 bottom, 38.8 top.

The corridor communicated with the plug chamber (F), as the walling, which separates the two, was partially destroyed. This enabled me to find the difference between the two pavement levels of the former and the latter. The paving of the passage was found to be $2\frac{1}{2}$ inches below the pavement of the second plug chamber. The north end of the passage communicated with a chamber (K) 130 inches long \times $105\frac{3}{4}$ inches wide \times $93\frac{3}{4}$ inches high. This was roofed with three stones and part of a fourth, measuring in width from E. to W. $15\frac{1}{2}$, $35\frac{1}{2}$, $39\frac{1}{2}$, and 41 inches. The side walls were of two courses. At the N.W. corner of this there was a short passage (L) 81 inches \times $38\frac{1}{4}$ \times $62\frac{1}{2}$, the roof of which was covered by a practically square block of quartzite $82\frac{1}{4}$ inches long \times $31\frac{1}{2}$ inches thick.

75. SARCOPHAGUS CHAMBER (pls. xlvii, xlviii). This chamber was $360\frac{1}{2}$ inches long and 105 inches wide, and contained the sarcophagus at its southern end. The latter was cut out of a monolithic block of quartzite, the outside measurements of which were $187 \times 103\frac{1}{2} \times 72$ inches. A portion of this block ran in under the southern end wall of the chamber.

The place set apart for the body was at the north end of the block and measures as follows: north side, 37.6 inches wide at bottom, 37.4 inches wide at top; south side, 37.4 B., 37.2 T.; east side, 93.7 long B., 93.9 inches T.; west side, 94.1 long B., 94.3 T. The depth taken at the four corners is N.E. 46.1, N.W. 46.4, S.E. 46.1, S.W. 46.4. North of this was a square compartment for the canopic jars, measuring: north side, 26.9 T.; south, 26.6 T.; east, 26.4 T.; west, 26.2 T. The bottom dimensions of this could not be found. The depth at the corners was: N.E. 29.9, N.W. 30.4, S.E. 29.9, S.W. 30.3.

There was a space of 33 inches between the inside face of the receptacle for the body and the eastern face of the sarcophagus block; $9\frac{1}{2}$ inches of stone separated the two compartments for the body and the canopic jars. The sarcophagus was set square, and level in the chamber, the space between the side walls and the block was only $\frac{3}{4}$ of an inch. This was filled up with cement to hide the joint. The exposed faces of the sarcophagus were very well finished, the surface of the stone being rubbed down smooth. When this had been done the stone was covered with a thin coating of red-coloured plaster, the reason of which is difficult to understand, as there were no flaws to conceal.

Two slots, perhaps for plugs, were cut on each side of the burial place, at its northern end 3 and 4 inches deep. Similar holes would doubtless be found on the under side of the cover to agree with these.

The lid lay at the north end of the chamber, the southern end of it projecting 5 inches beyond the northern end of the sarcophagus. This was better finished than the stone it was intended to cover, and its surface was almost polished. It will be noticed in the plan, pl. xlviii, that it lies on a slight slope to facilitate running it into place. It rested on two limestone beds 24 inches wide at the west and 35 inches at the east. These beds can be seen on the plan at the northern end of the chamber. The cover measures $166\frac{1}{2}$ inches long \times $102\frac{1}{2}$ inches wide and was $30\frac{1}{4}$ inches thick at its two ends, thus being less wide by one inch than the sarcophagus.

The lid is of the usual rounded type, with a flat along each side of $9\frac{1}{2}$ inches, and square block ends 17.6 inches wide. The thickness of the lid at the ends is 20 inches.

On the eastern side of the lid, close to its ends, are two slots 14 inches long, and $3\frac{1}{2}$ inches wide. Doubtless there also exist two on the western side. The eastern slots, owing to their being filled in with dirt, were not seen in time to examine the western side of the lid before it was covered with rubbish.

The chamber above the burial place was pent-roofed for $177\frac{1}{2}$ inches long from the south, and 134 inches high from the sarcophagus to the apex. North of this the roof was flat and 37 inches lower. This flat roofing was set at the same angle as the lid of the sarcophagus, and is therefore parallel with it.

An elaborate arrangement existed in this chamber for shutting off half of its length, when the lid had been pushed into place. This took the form of a sliding door, or plug block of quartzite, which rested in a recess on the west side of the chamber, pls. xlvii, xlviii. When found, the block was not wholly resting on the slanting floor of its recess, but its eastern base was raised $9\frac{1}{2}$ inches and rested on some small limestone blocks irregularly shaped. A small vertical niche was cut on the opposite side of the sarcophagus chamber to receive the sliding block, and a groove connecting the two recesses was cut in the roof to guide the block when it was to be drawn along. The size of the block is $126\frac{1}{2}$ (?) inches long \times 103 inches high \times 24 inches thick, and its recess $132\frac{1}{2}$ inches long \times $117\frac{1}{2}$ inches high \times 26 inches wide.

At the base of the eastern end of the block was a notch cut in the stone measuring $7\frac{1}{4}$ inches deep and

6½ inches high. This must have been cut to facilitate the insertion of a lever beneath the block in order to move it into place.

A large slab of quartzite 163 inches long × 63 inches high × 34½ inches thick was set up on its edge to form a slide for the block to run down on. The southern face of this was cemented to the northern outside face of the sarcophagus, and was also supported originally by its two ends which were built in solid limestone masonry. A large space has been excavated by treasure-seekers beneath the lid, and only one end is now fixed.

The finish of the pent-roof portion of the chamber was much finer than that of the flat roof; the tool employed for the work was apparently a pick, the marks running diagonally from left to right, and measuring ⅓ of an inch in width. The recesses for the plug block were roughly dressed, as they would not be seen when the block was home. The southern end wall of the sarcophagus chamber has a small doorway that leads down by a short passage (N) into a long chamber (O) running E.-W. The roof of this is of the same level as the passage. This doorway is provided with a narrow recess 2½ inches deep on its two sides and on the top, for the purpose evidently of receiving a thin slab of stone. It will be perceived from the plan, pl. xlviii, that the bottom of the chamber wall here recedes for 36 inches in order to accommodate the butt end of the sarcophagus cover.

The widths of the stones that form the roof of the chamber are, from the north, 15, 40, 43, 42½, 39½ for the flat roof, and pent-roof 36, 25½, 34, 41, and 40½ inches. It will be seen from the southern section of the chamber that the pent-roof does not start from the level of the top surface of the sarcophagus. The eastern and western walls of the chamber at this point are vertical for 30½ and 31 inches respectively before the roofing blocks begin to meet one another.

76. The passage (N) was 46 inches long, 27½ inches wide, and 26 inches high. A portion of its pavement was formed by the northern end of the sarcophagus, which projected into the passage for 16½ inches. The floor of chamber (O) was 59 inches below the pavement level of the passage, and 85 inches in height altogether. The length and the breadth were 185 and 58½ inches respectively.

The finer measurements are: north wall, 184.9 T.; south wall, 184.8 T.; east wall, 58.4 T., 58.1 B.; west wall, 58.4 T., 58.5 B.; north-east corner, 85.1, N.W. 85.1, S.E. 84.3, S.W. 84.8. The side walls of the

chamber were of three courses, and three slabs formed the roof.

77. All of the exposed faces of the quartzite stones in this tomb, including the plug blocks, had once been painted red. On many of the blocks also were drawn several series of vertical strokes in black upon the red surface, as shown at bottom of pl. 1. The thickness of these marks average .5 inch, their edges in most cases being ill defined. Their length was 7.5 inches and the space between them 4.15 inches. Each series of strokes was contained between fine horizontal lines. It is difficult to explain why only the quartzite blocks should have been selected for this purpose, the marking not being found on any limestone masonry. It could hardly have been for the purpose of ornamentation, because it occurs on the ends of the plug blocks which would be concealed in their recesses when the chamber was closed. Similarly the northern outside face of the sarcophagus was also marked, and I could not have seen this if the limestone bed, upon which the lid rested, had not been destroyed.

Another curious feature in this tomb was the presence of a quantity of fine sandy earth that partially filled chamber (H) and the sarcophagus chamber. This must have been purposely brought in from the outside, or have fallen in when the tomb was in course of building and not been removed. A parallel case is a quantity of marl that was observed in the passage chamber of the pyramid of Illahun.

78. We cannot say for whom this tomb was intended, for no trace of a name was found in the building, but, as we have noted, the presumption is that it was for Amenemhat IV or his immediate successor. It is also difficult to decide whether the tomb was ever in use, for though no bones or offerings were found in the burial chamber, and the plug blocks were not closed, yet the fact that the wall between chamber (F) and passage (J) was broken would suggest that plunderers found chamber (H) blocked up when they entered it, or they would hardly have taken the trouble to cut through 32½ inches of stonework if they could have gone round.

The plug blocks with their chambers resemble those in the southern Mazghuneh pyramid to a marked degree, a fact which would date this tomb to a period just before or after the former was built. It is difficult to imagine how these plugs were intended to be moved, for they must have weighed

42 tons (C) and 24 tons (F). There were no grooves for attaching ropes to them similar to those in the Hawara pyramid. Both blocks were quite plain with the exception of a slot $14\frac{1}{2} \times 3\frac{1}{4} \times \frac{1}{2}$ inches on the western side and close to the southern top corner of the plug in chamber (C). This had a small piece of copper or bronze adhering to the bottom of it, evidently a portion of the edge of a chisel. The walls of both plug chambers were fairly smooth and had been dressed with a pointed pick, the marks running diagonally down from left to right. Traces of a very thin coating of plaster still remained on their walls in many places.

The wall under the southern recess in chamber (C) had a large hole in it, which enabled me to crawl in and inspect the back of the masonry. A quarry mark was seen on the sides of one of the stones here; a tracing of this is shown in the middle of pl. xlix.

79. As mentioned before, the pyramid that once existed above this tomb was entirely demolished, and the material of which it was built was removed from the site. It would seem however that it had been entirely constructed of stone, for little or no traces of broken brick remain. It would have been quite impossible to remove a brick pyramid without leaving some of its material behind. At present the site is quite bare with the exception of the limestone *débris* that encumbers the ground. I also searched the ground around the site in order to see if any portion of a peribolos wall existed, but without result. There was a long brick wall, marked (A) in pl. xlix, on the N.E. of the site, with its axis running N-S., that was first thought to be a part of a peribolos wall, but it afterwards proved to be a

retaining wall to hold up a quantity of rubbish in order to level the site. This wall was $37\frac{1}{2}$ inches thick and 606 inches long. It was in twelve courses at its highest point, and was constructed of brick made with straw, in alternate layers of stretchers and headers. A long causeway once led up to the structure above the tomb with brick walling on each side of it at the north and south (pl. xlix). That at the north was formed of two parallel lengths of walling (B and C) 460 inches apart, the space between them being filled up with rubbish in order to make a solid mass of the whole. To prevent the walls from bulging, cross walls $64\frac{1}{2}$ inches thick united the main ones at irregular intervals. The widths of the two main walls are 94 inches N. and 57 inches S. respectively.

The southern causeway wall was also made of two parallel structures filled with *débris* (D and E). This was 38 inches less in the thickness than the northern wall. There were no cross walls on this side.

The southern face of the thin wall (B) stands 66 inches high in one place, and has a batter of 8 inches. The northern face of wall (C) was vertical.

The causeway was 1722 inches wide and 4584 inches long, as far as we could trace. The axis of this was 136 inches north of the axis of the present entrance passage of the tomb. The latter was 1431 inches east of the eastern end of the causeway. During some clearing at the east of the causeway a large block of stone $67 \times 76 \times 34$ (pl. xlix (F)) was perceived 277 inches south and 404 inches east of the end of wall (B). This was the only large block of stone met with on the whole site, excepting of course those with which the tomb was built.

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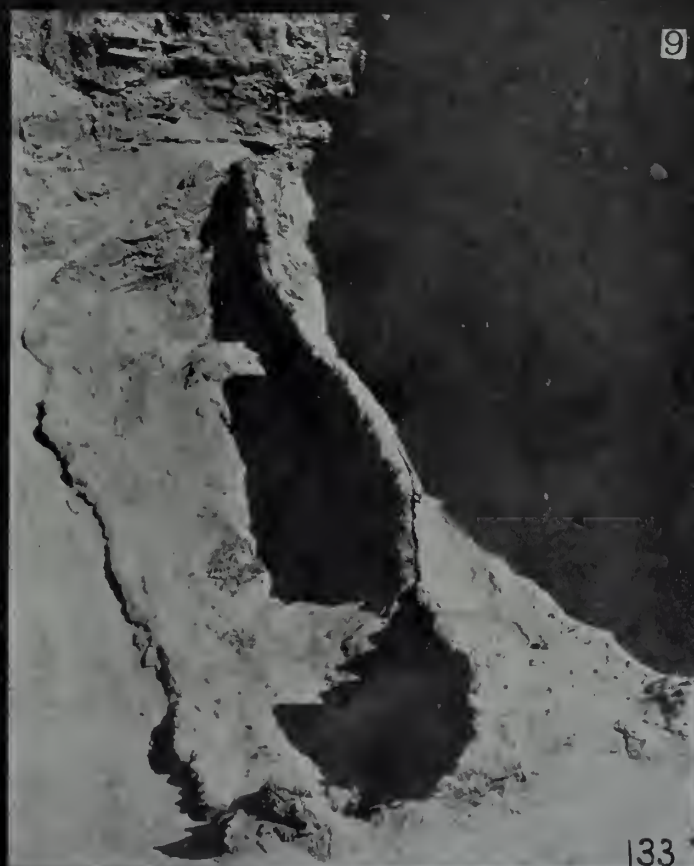
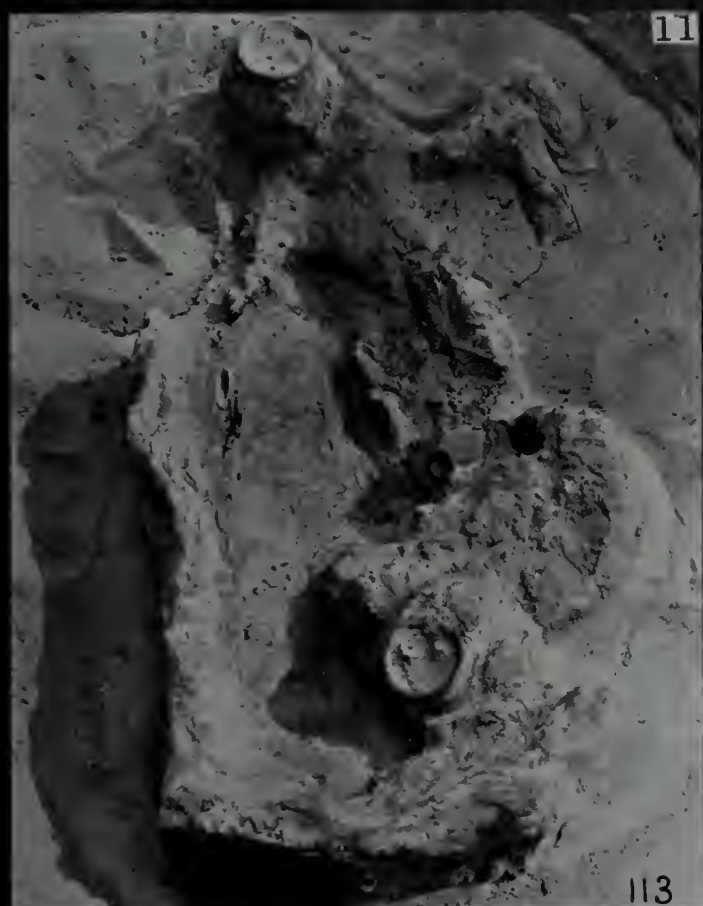
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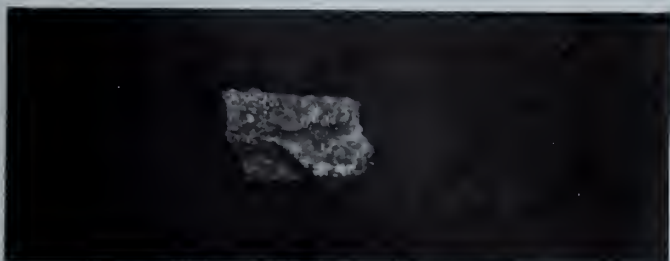
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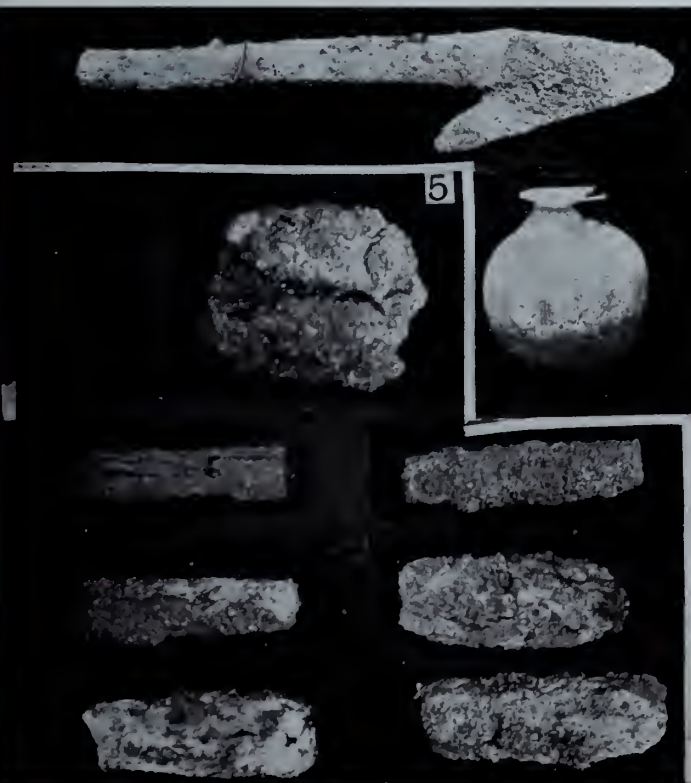
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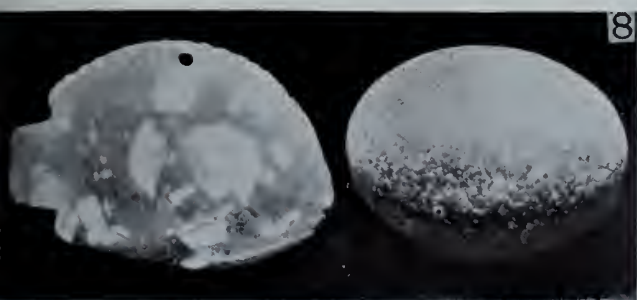


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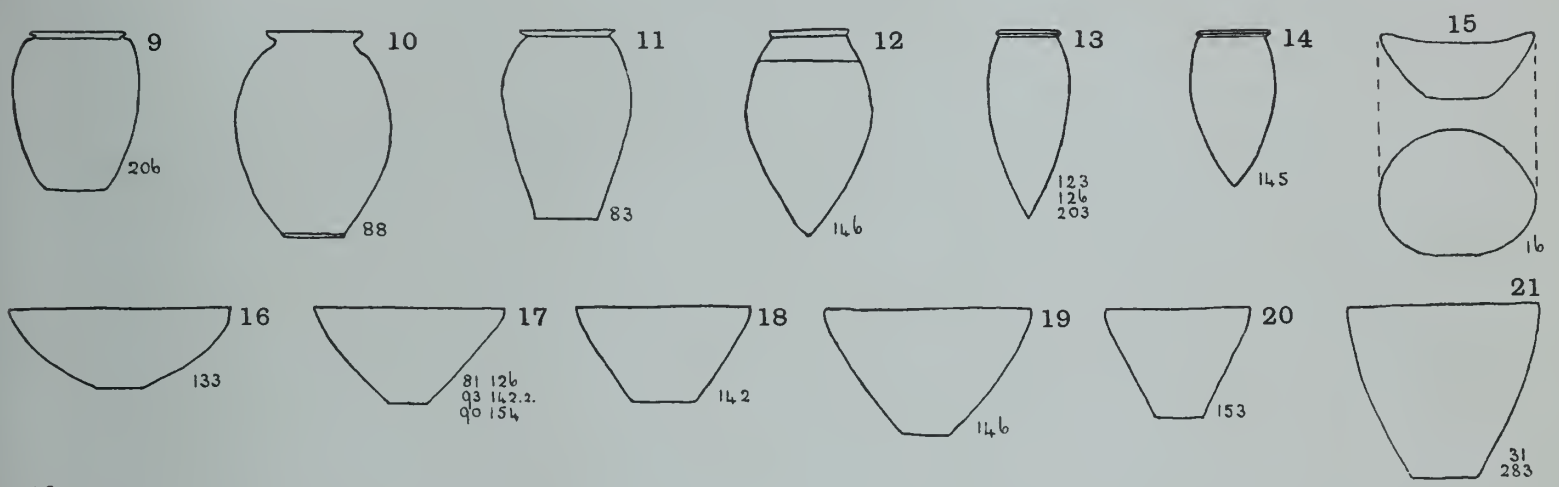
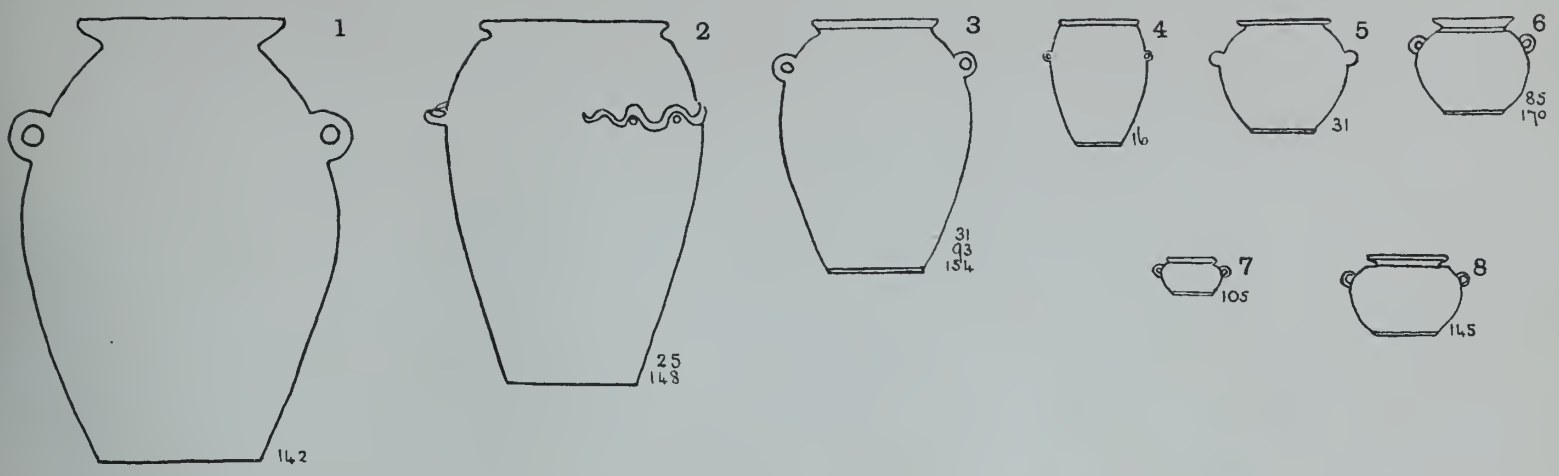
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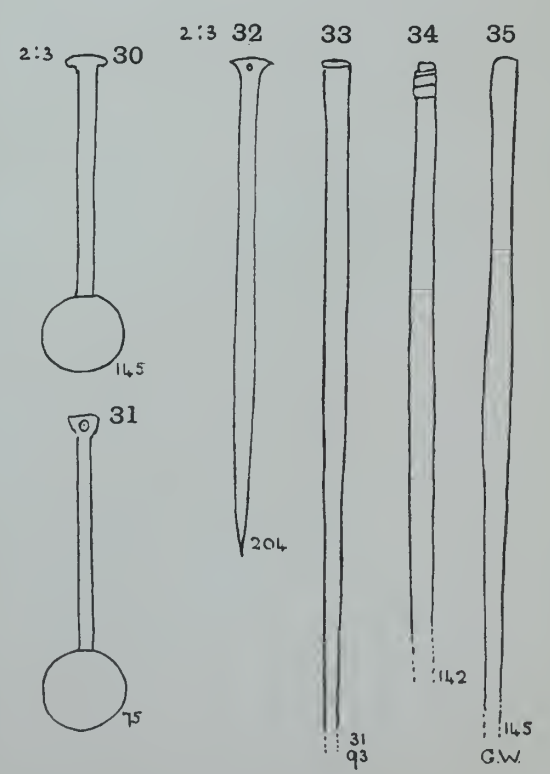
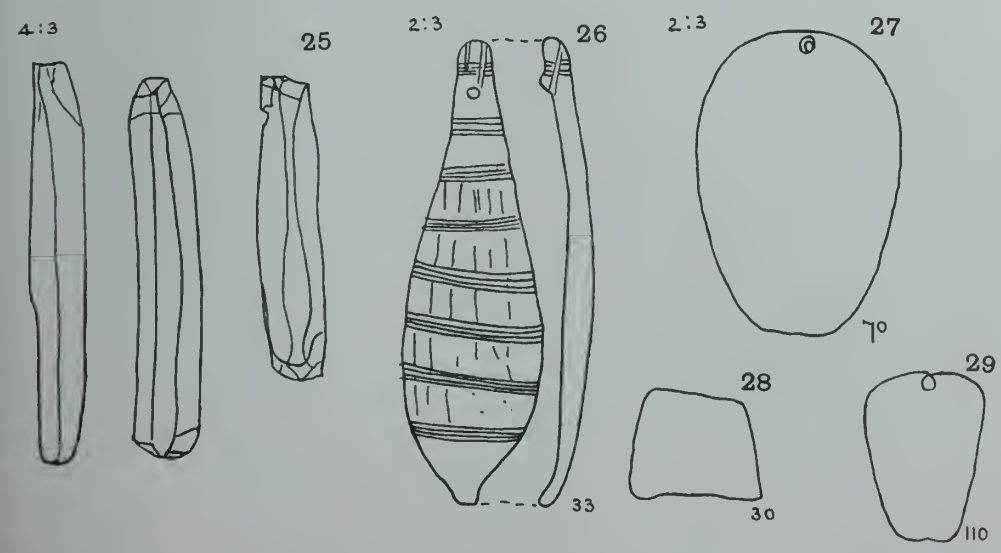
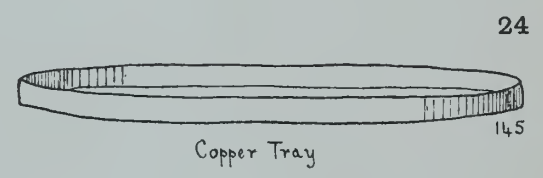
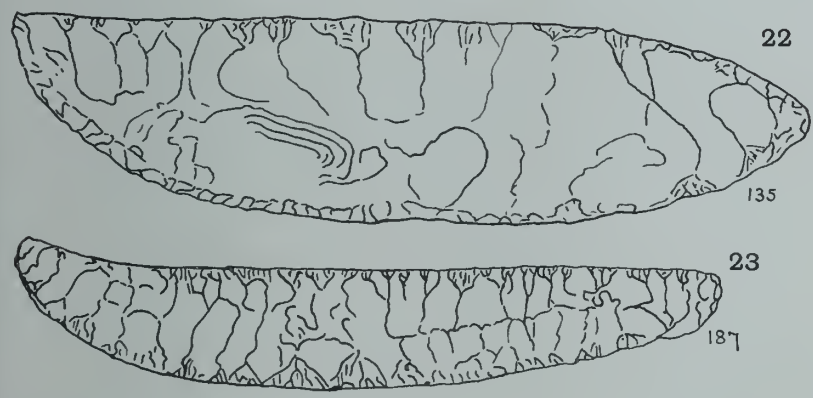


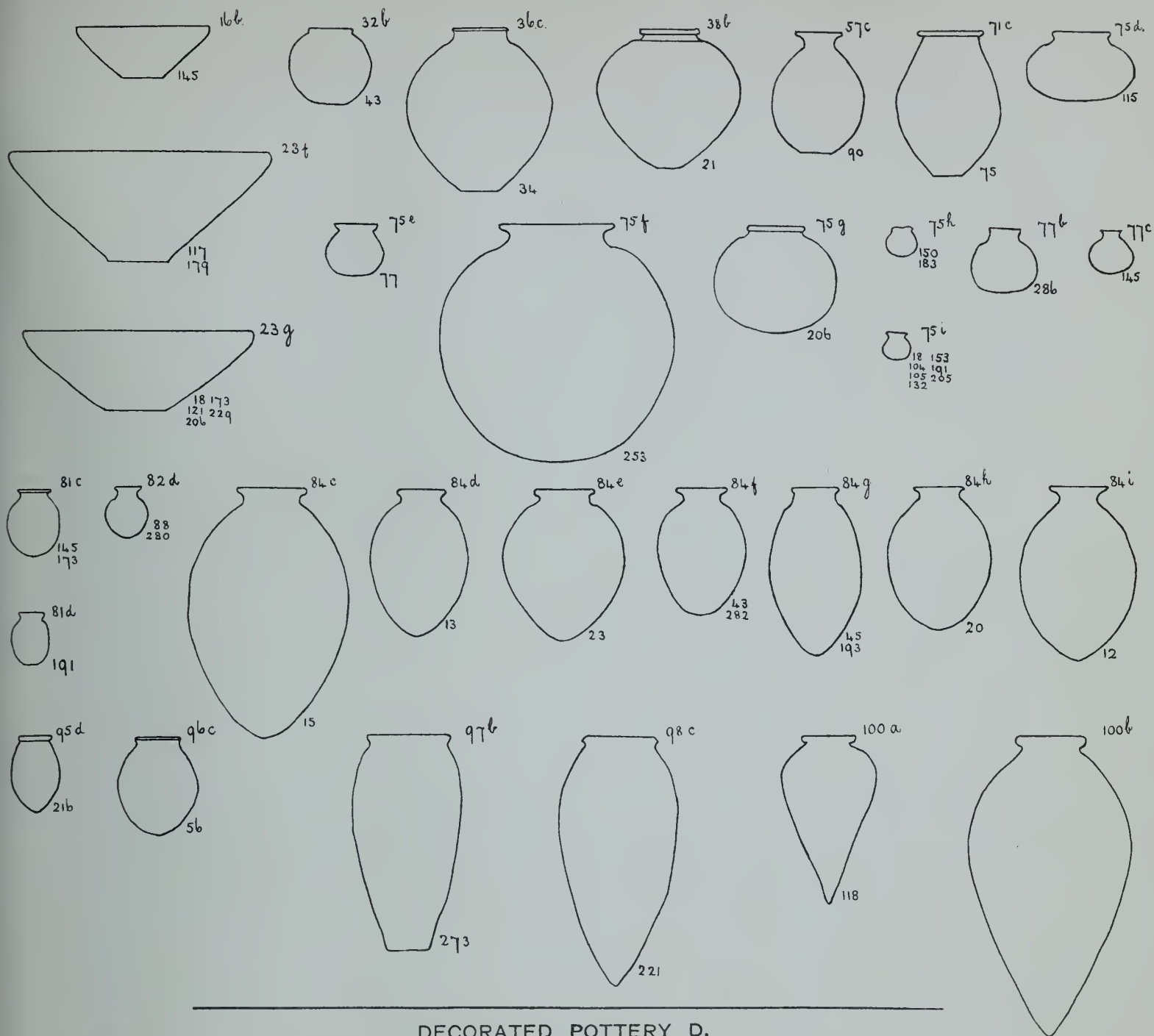
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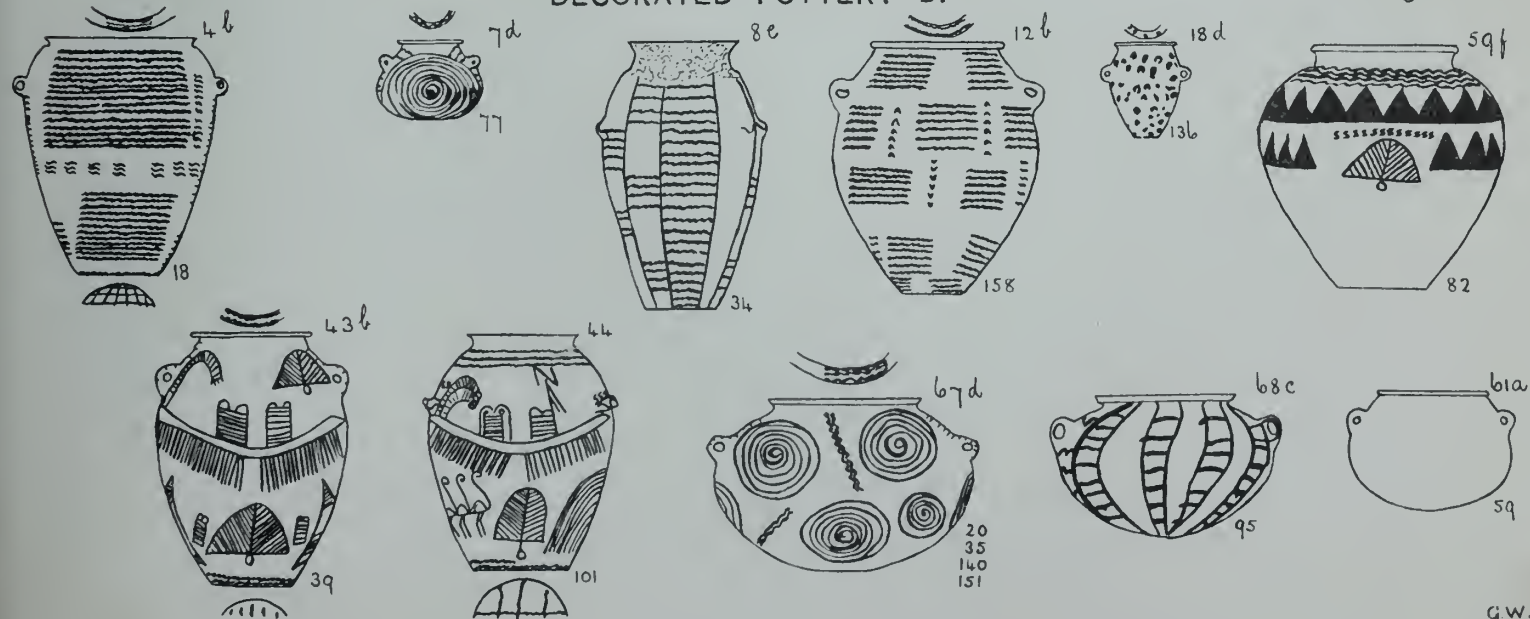


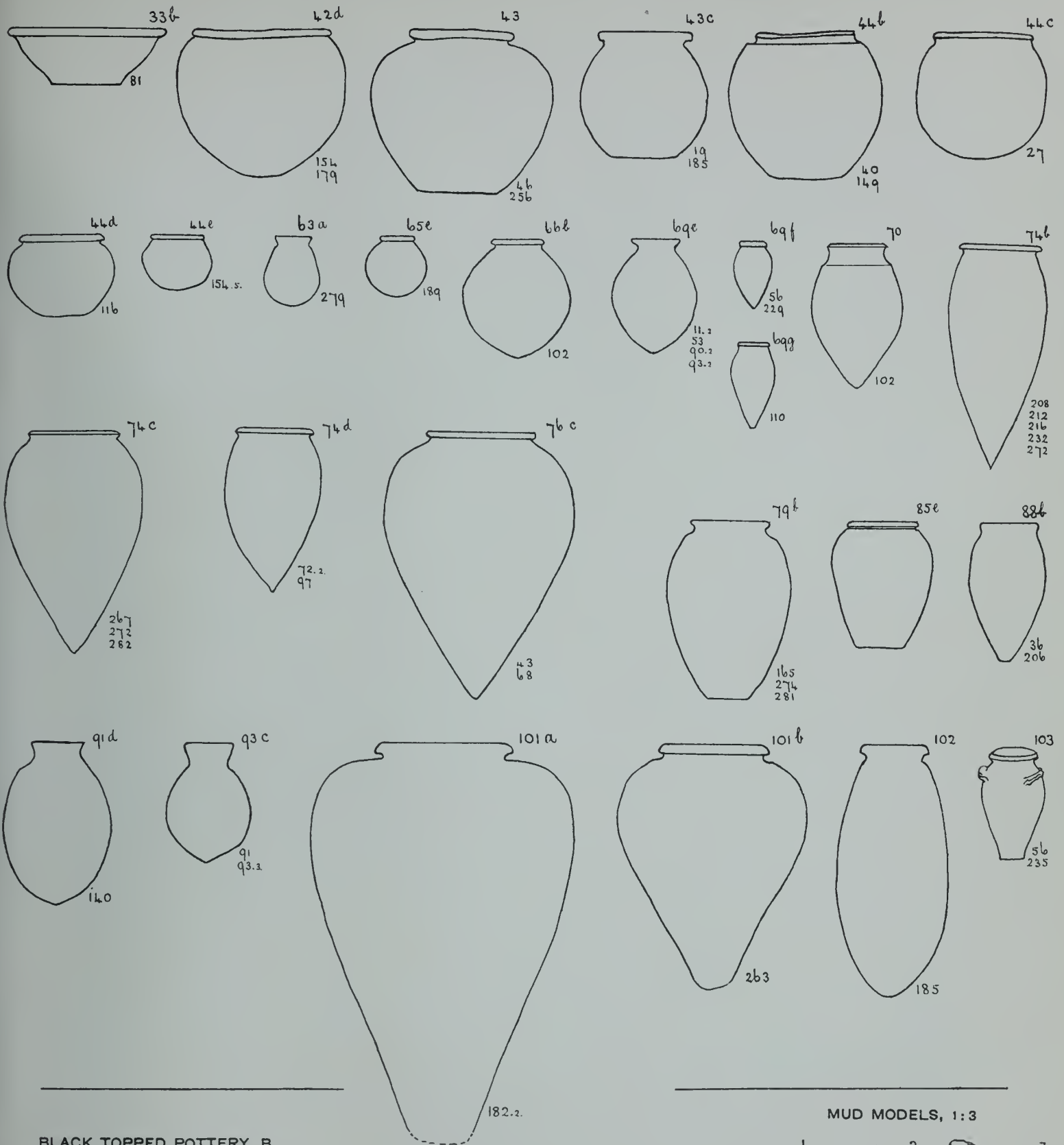
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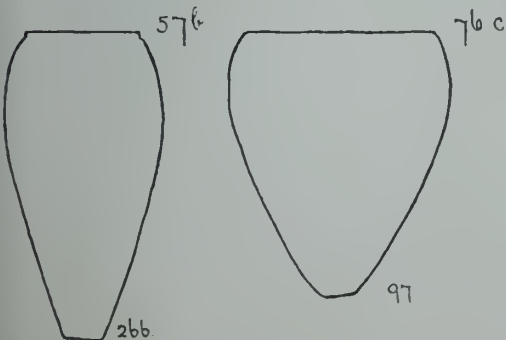


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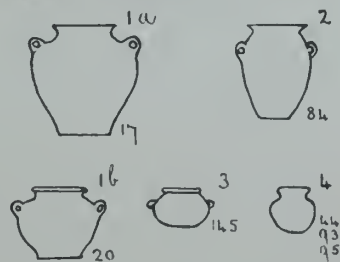




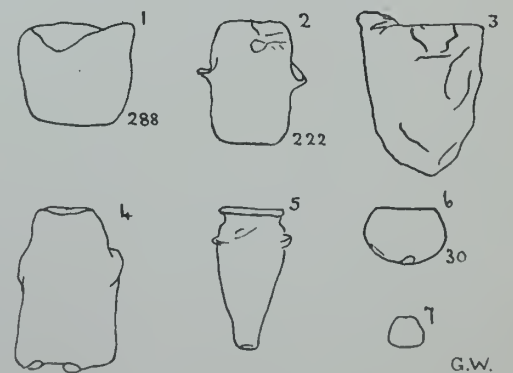
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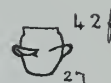
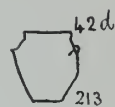
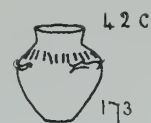
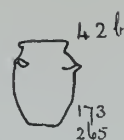
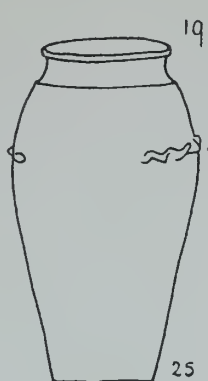
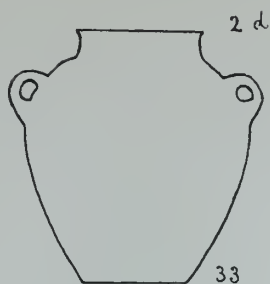
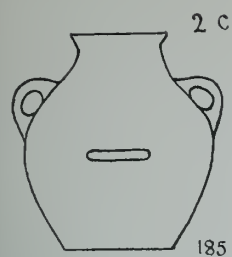


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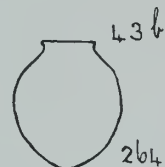
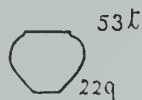
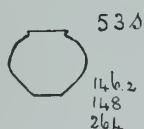
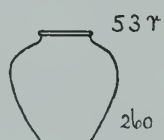


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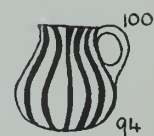
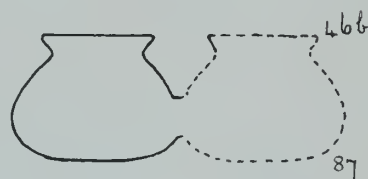
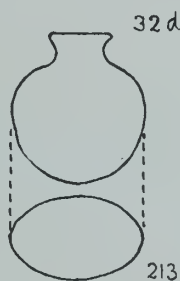
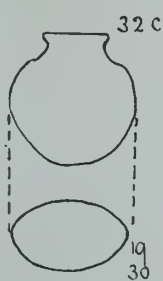
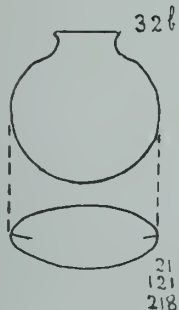
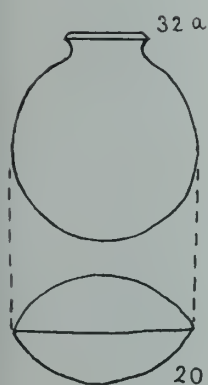




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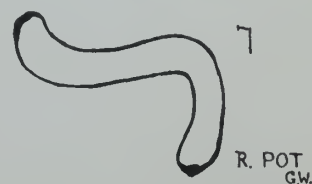
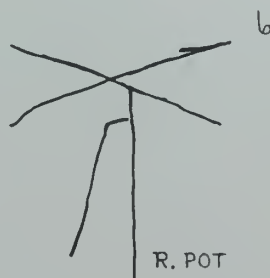
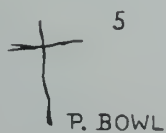
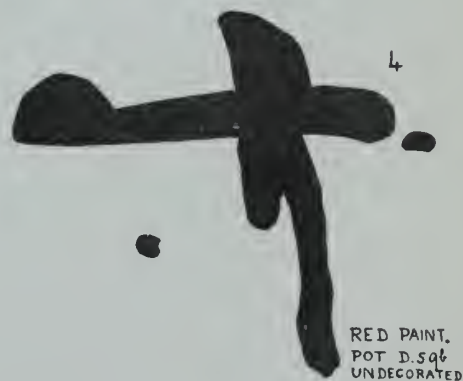
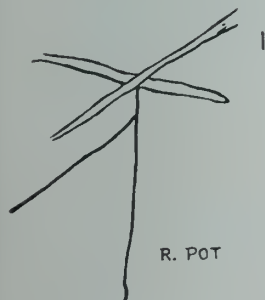


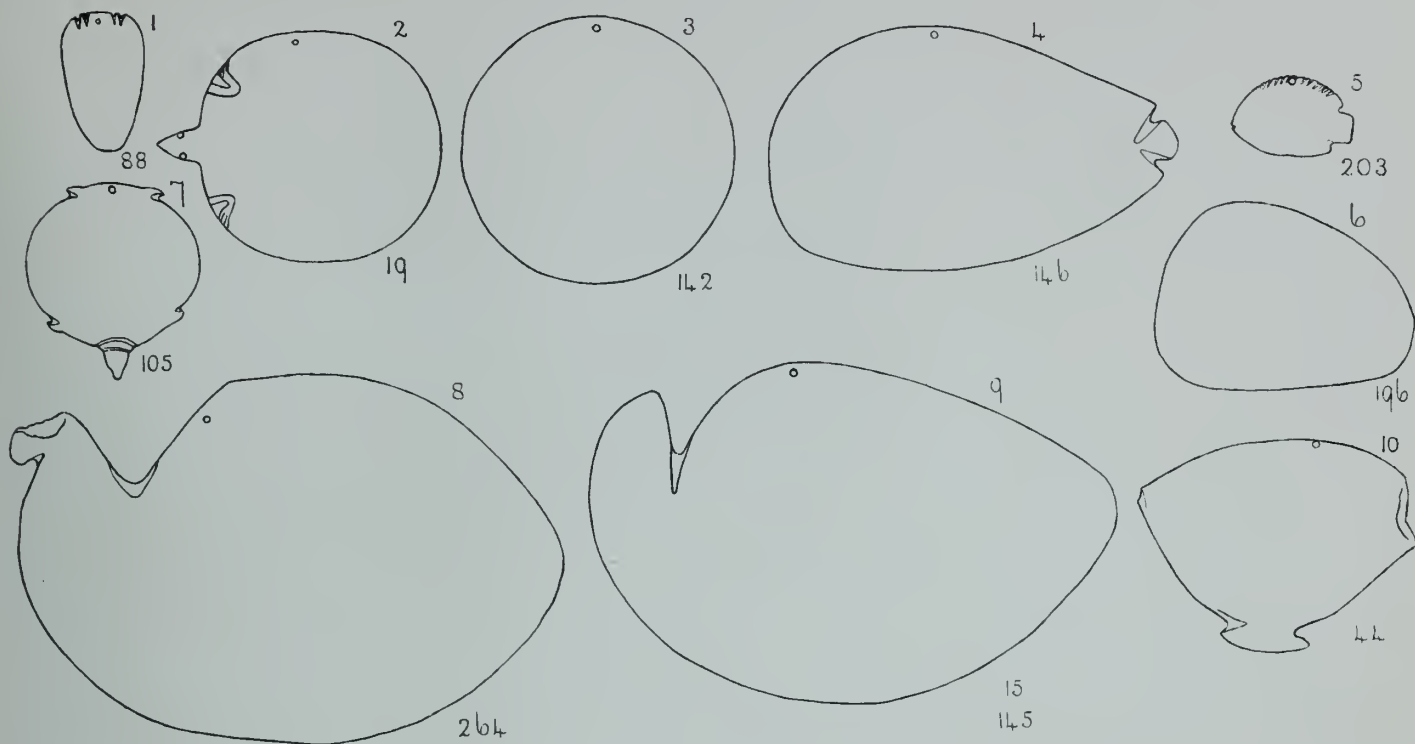
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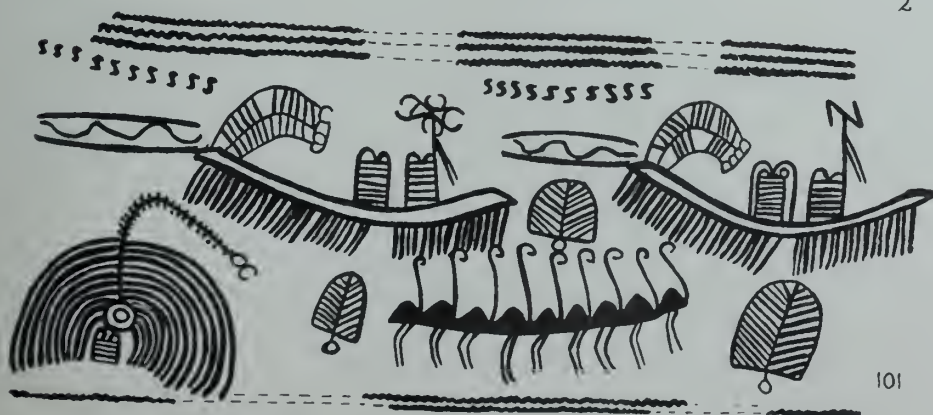
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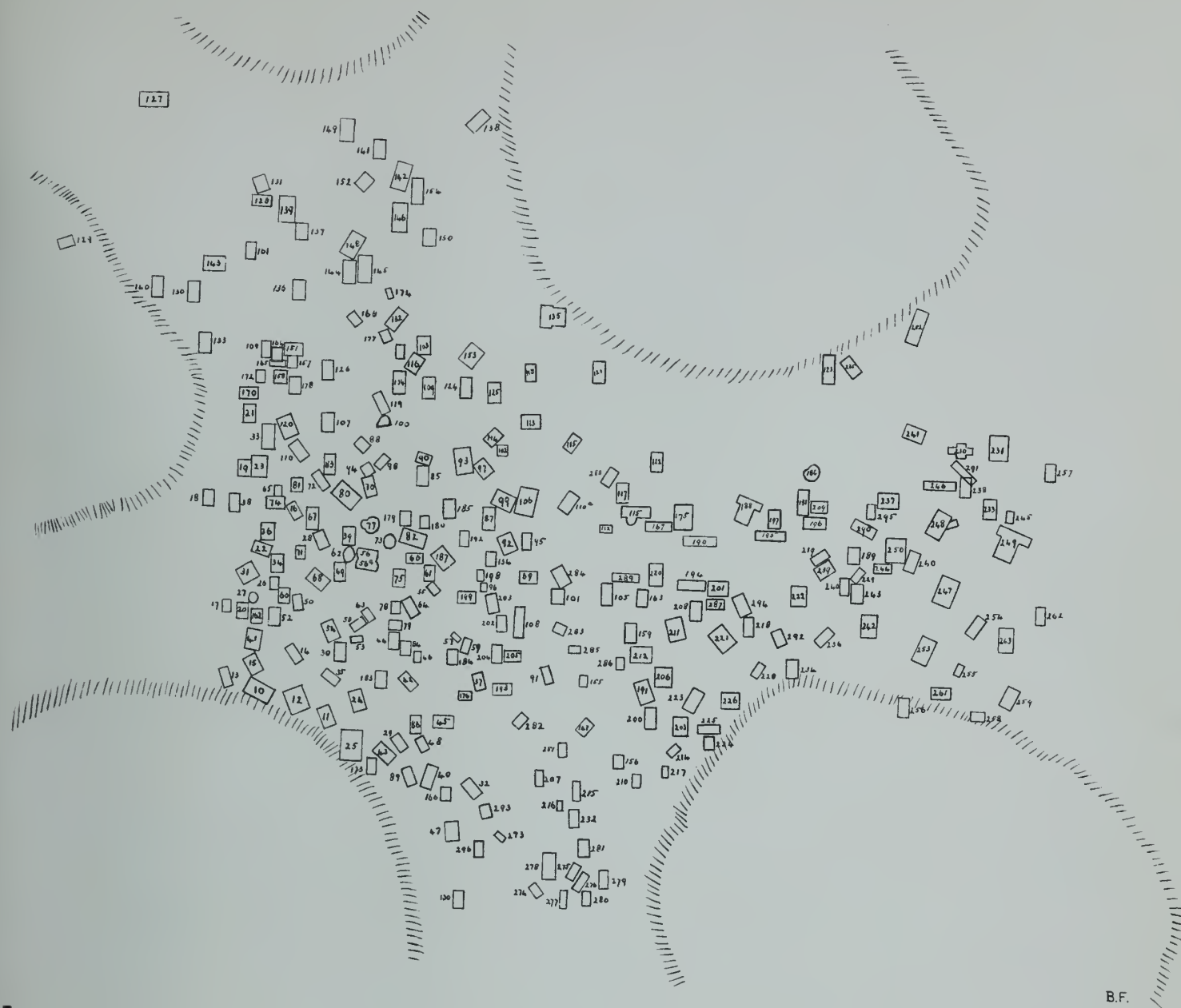
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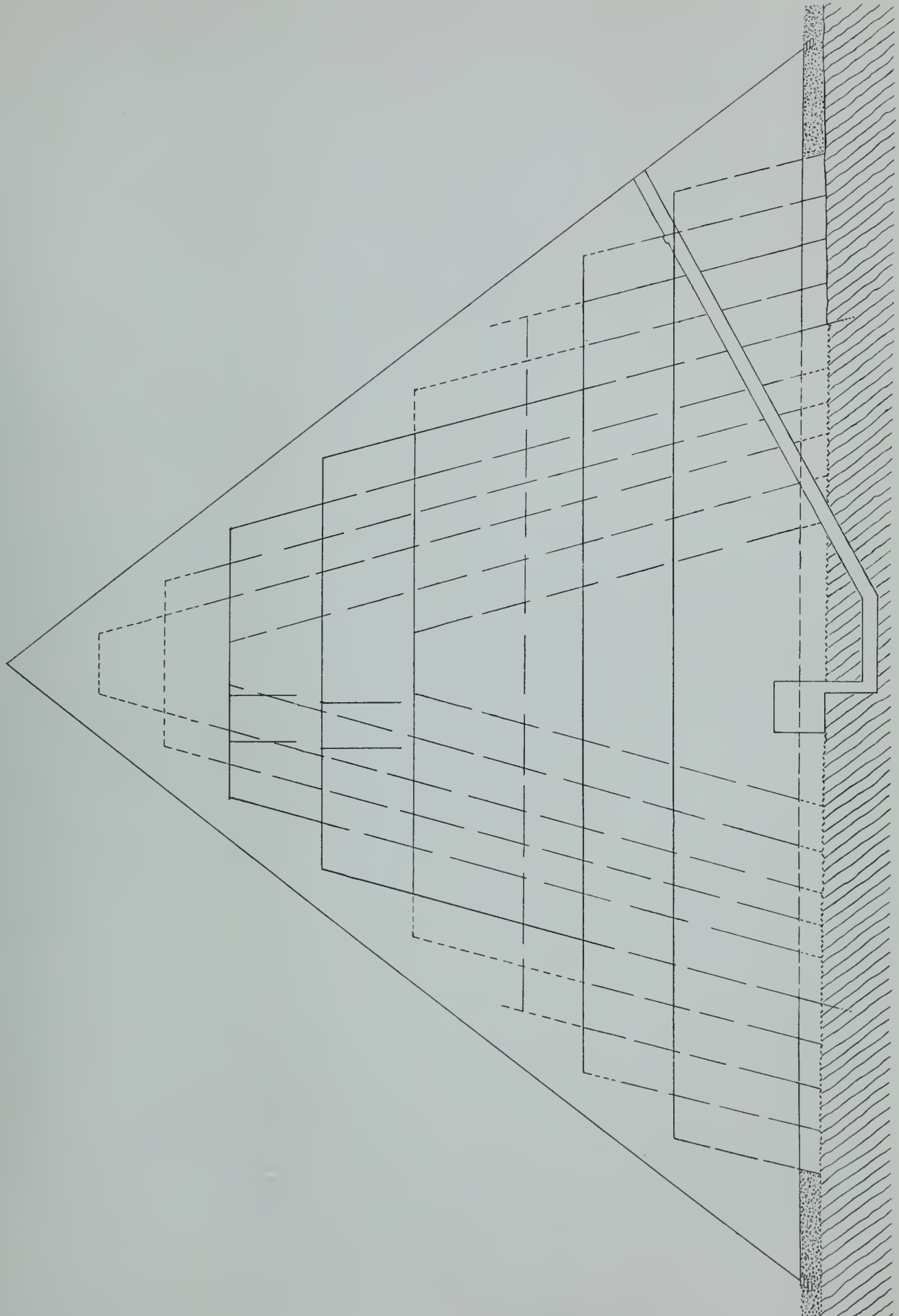


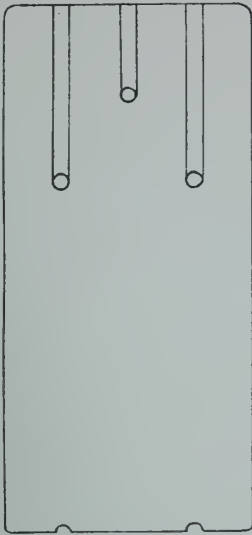
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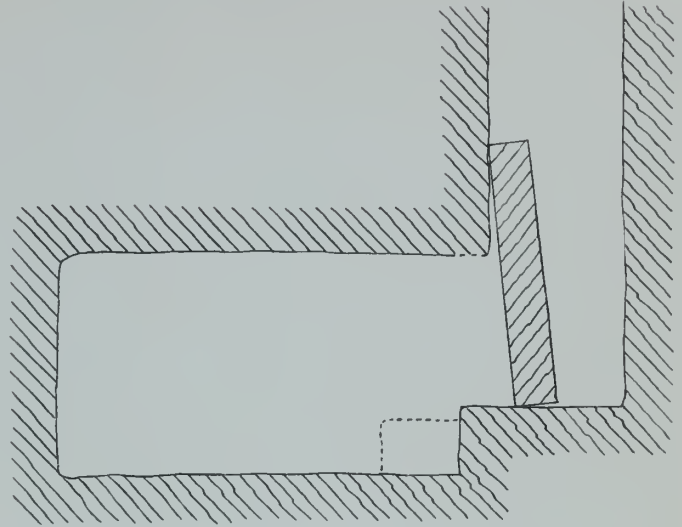
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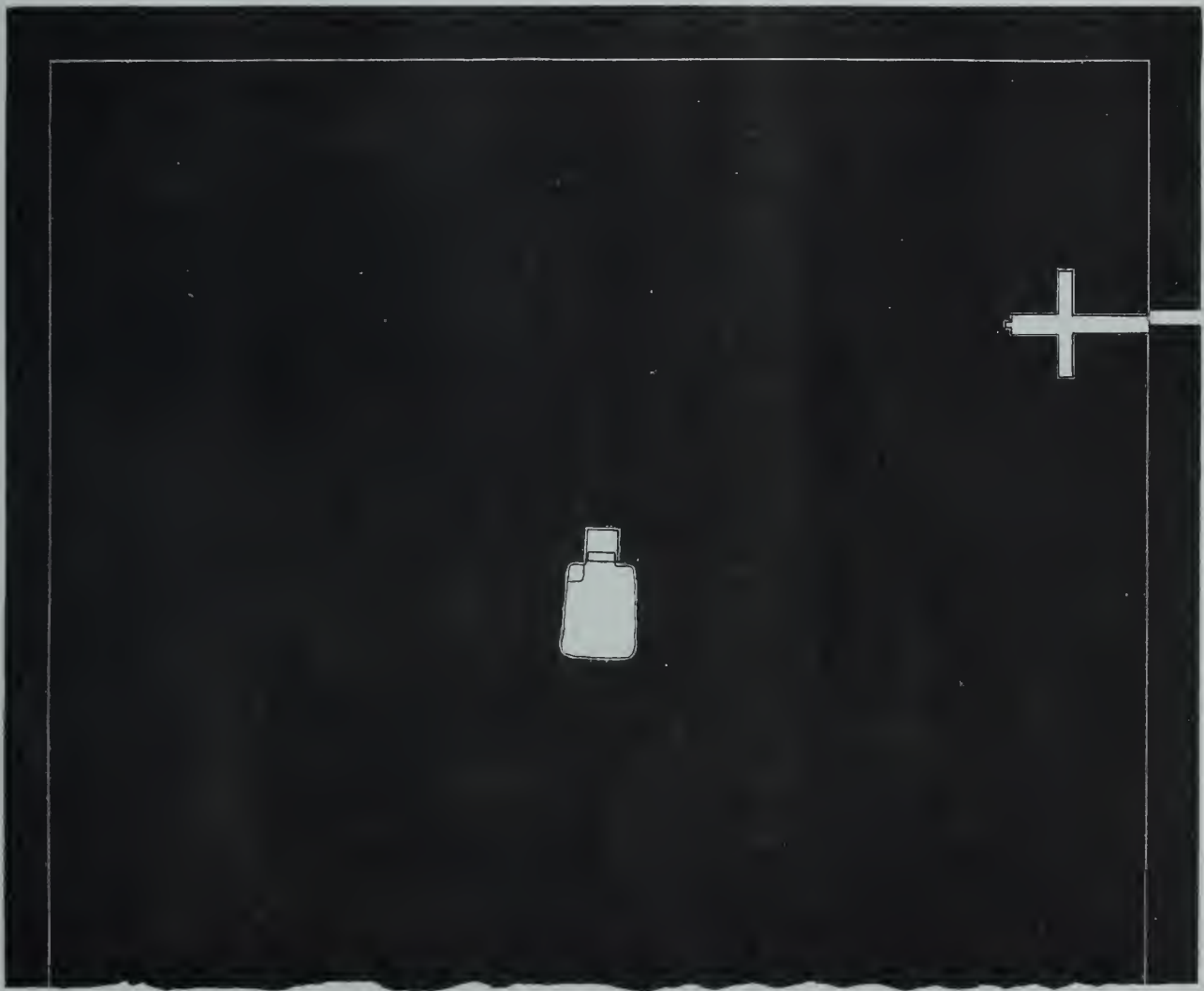


N. FACE OF STONE
PORTCULLIS 1:50



N. & S. SECTION OF WELL AND CHAMBER. 1:100

1:400



G.W.

PLAN OF ATET'S CHAMBER IN N. HALF OF MASTABA.



1 : 13 WOODEN DOOR OF NEFERMAAT.



1 : 3 TOMB GROUP 78, XVIII DYNASTY.

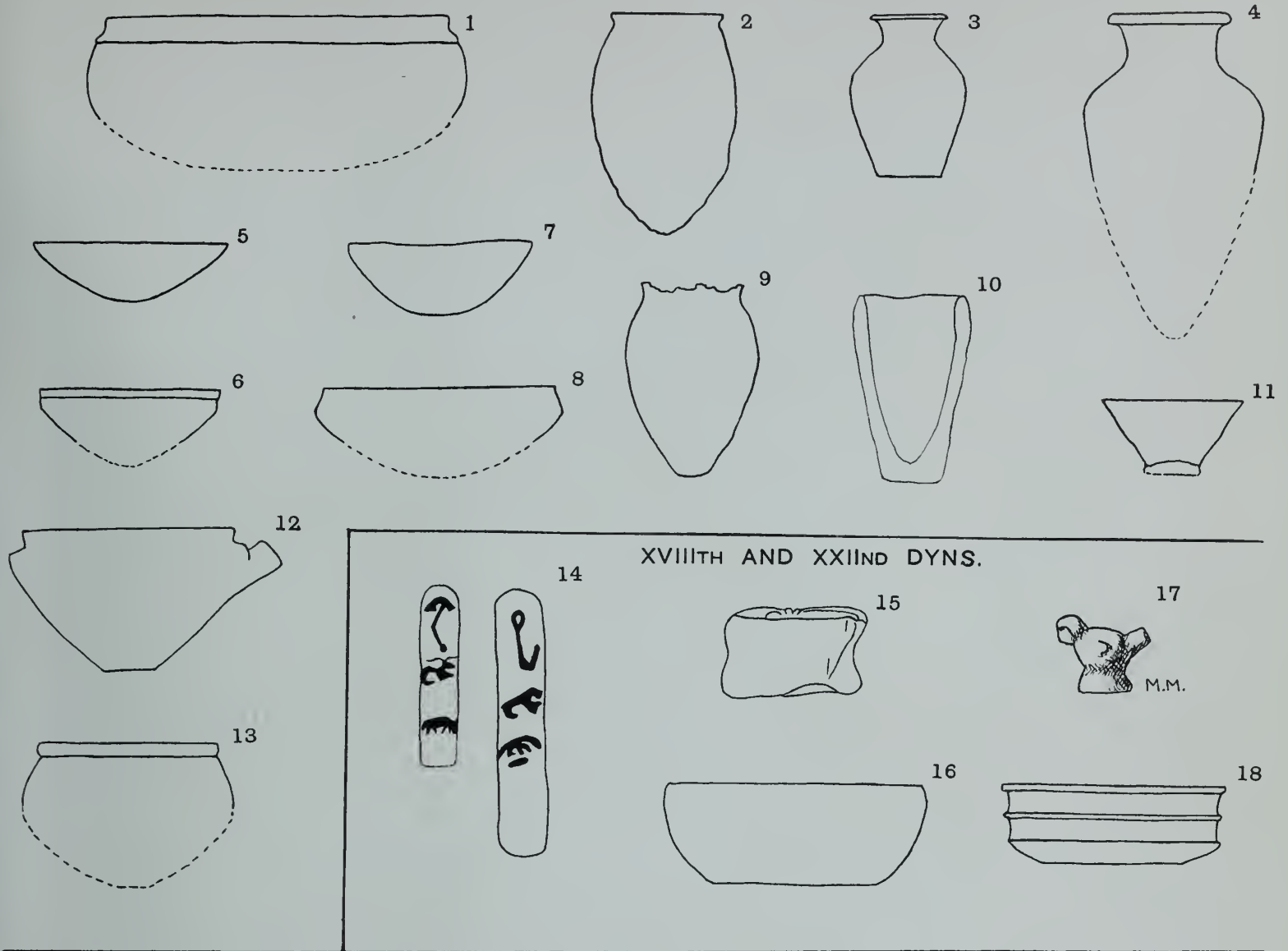
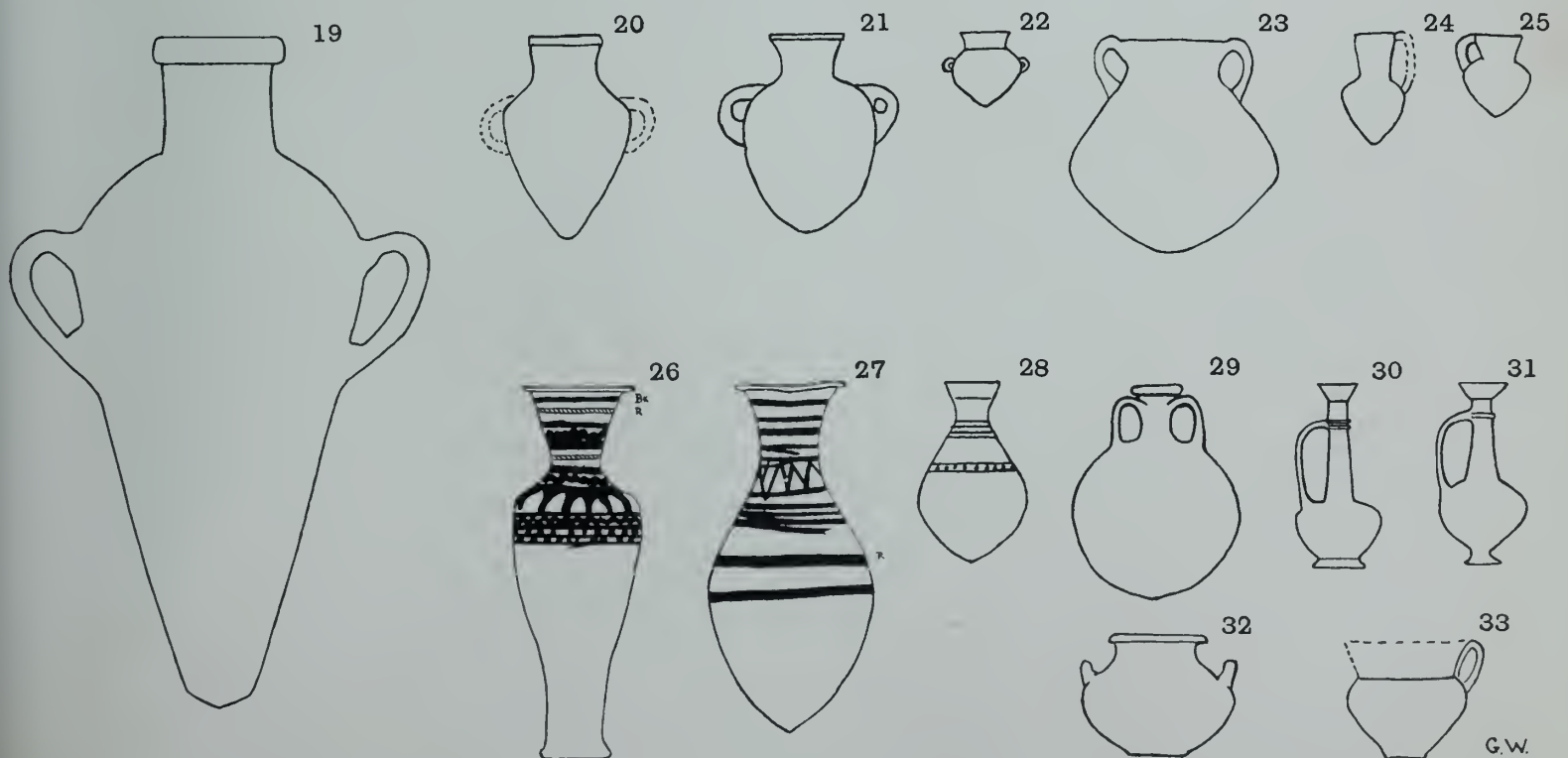
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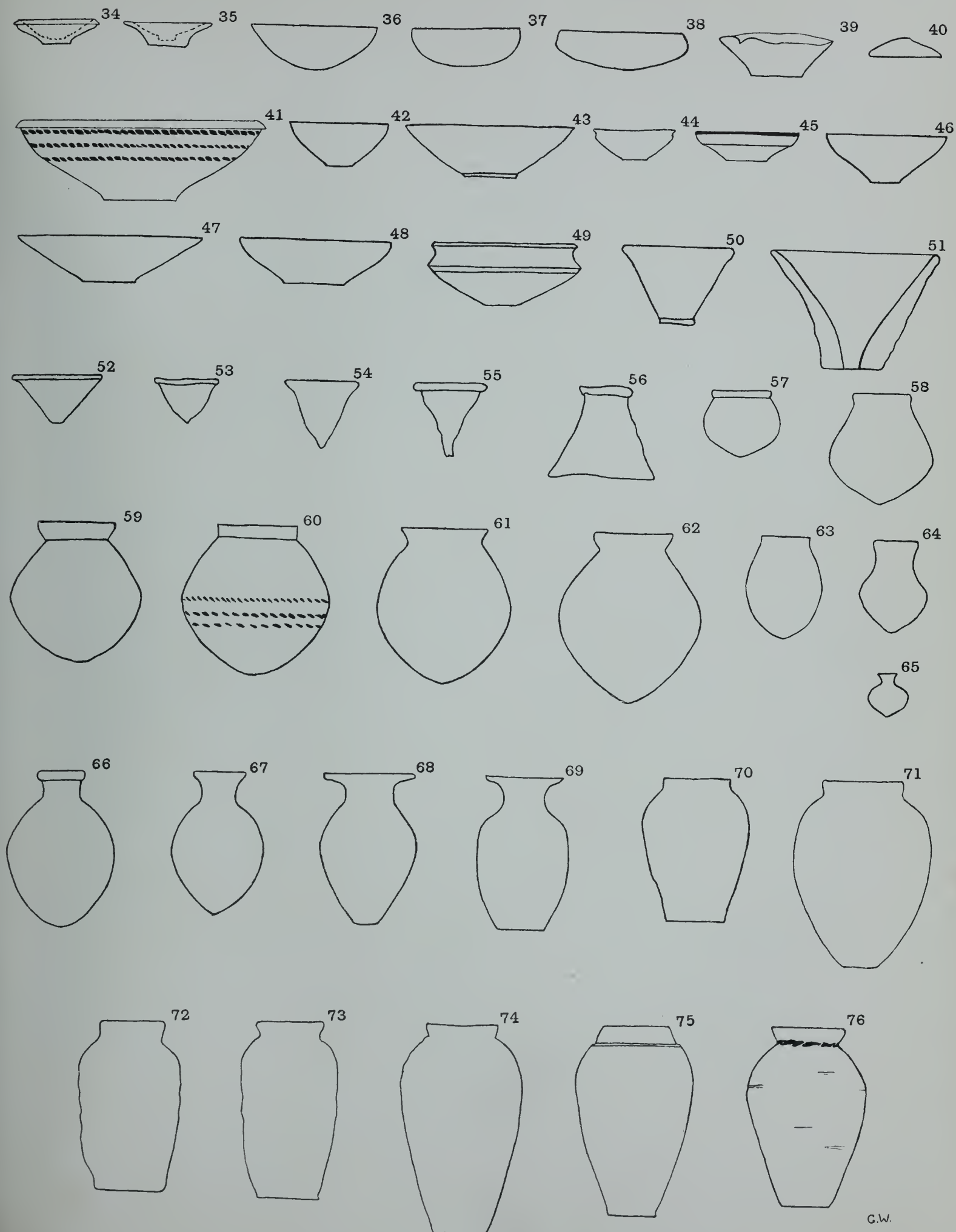


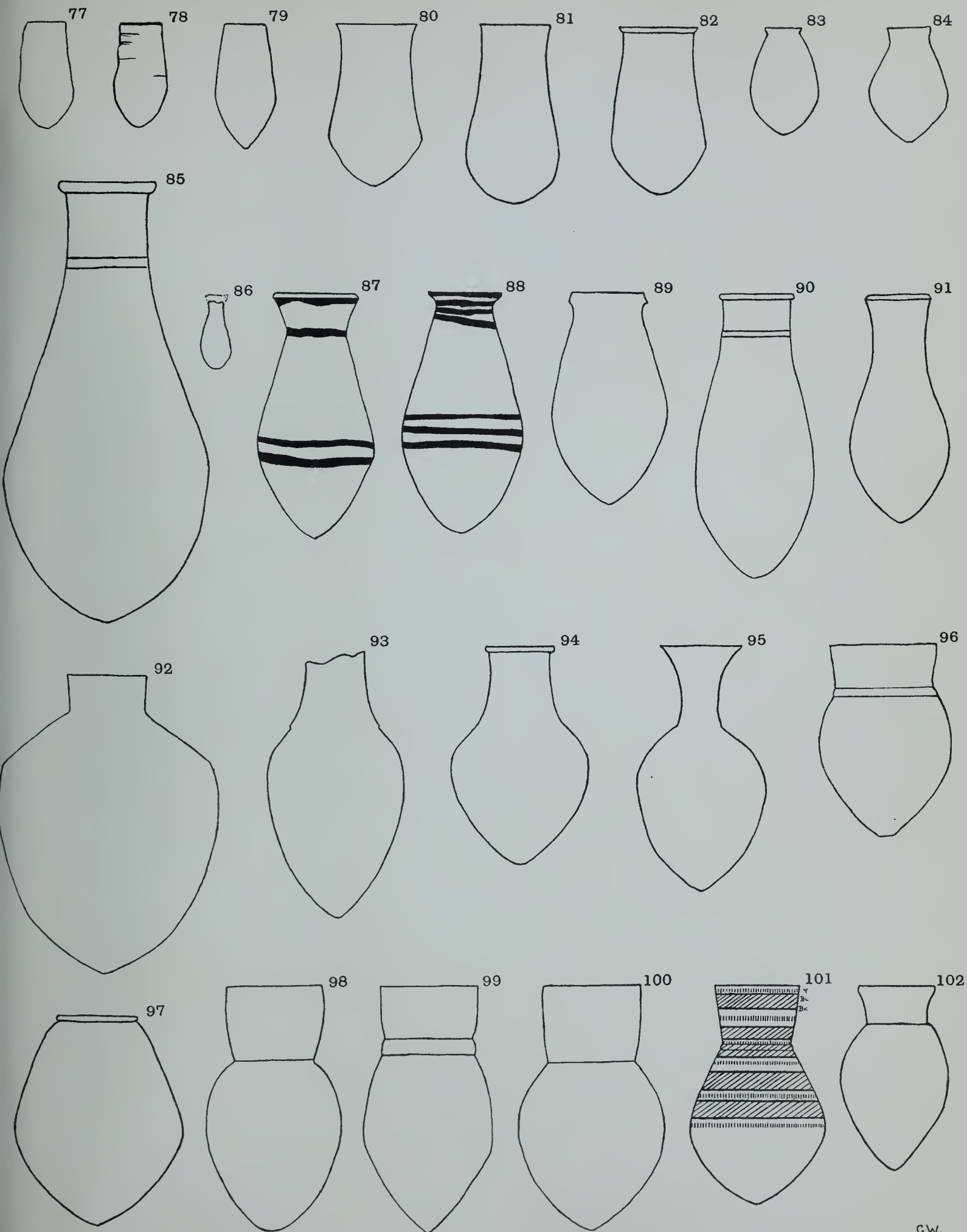
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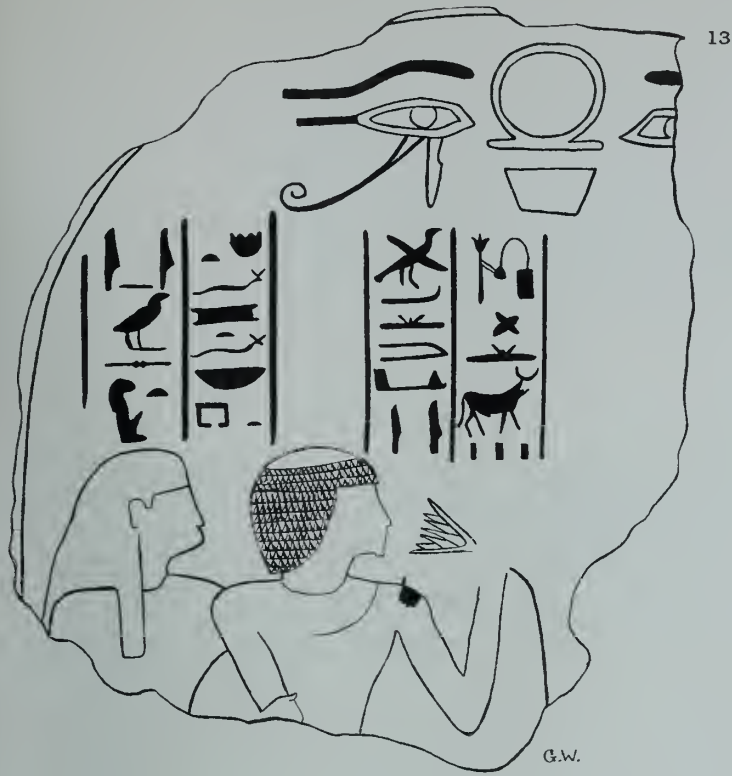


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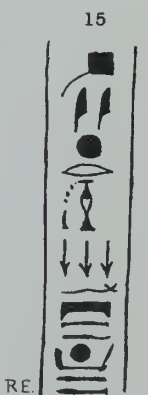
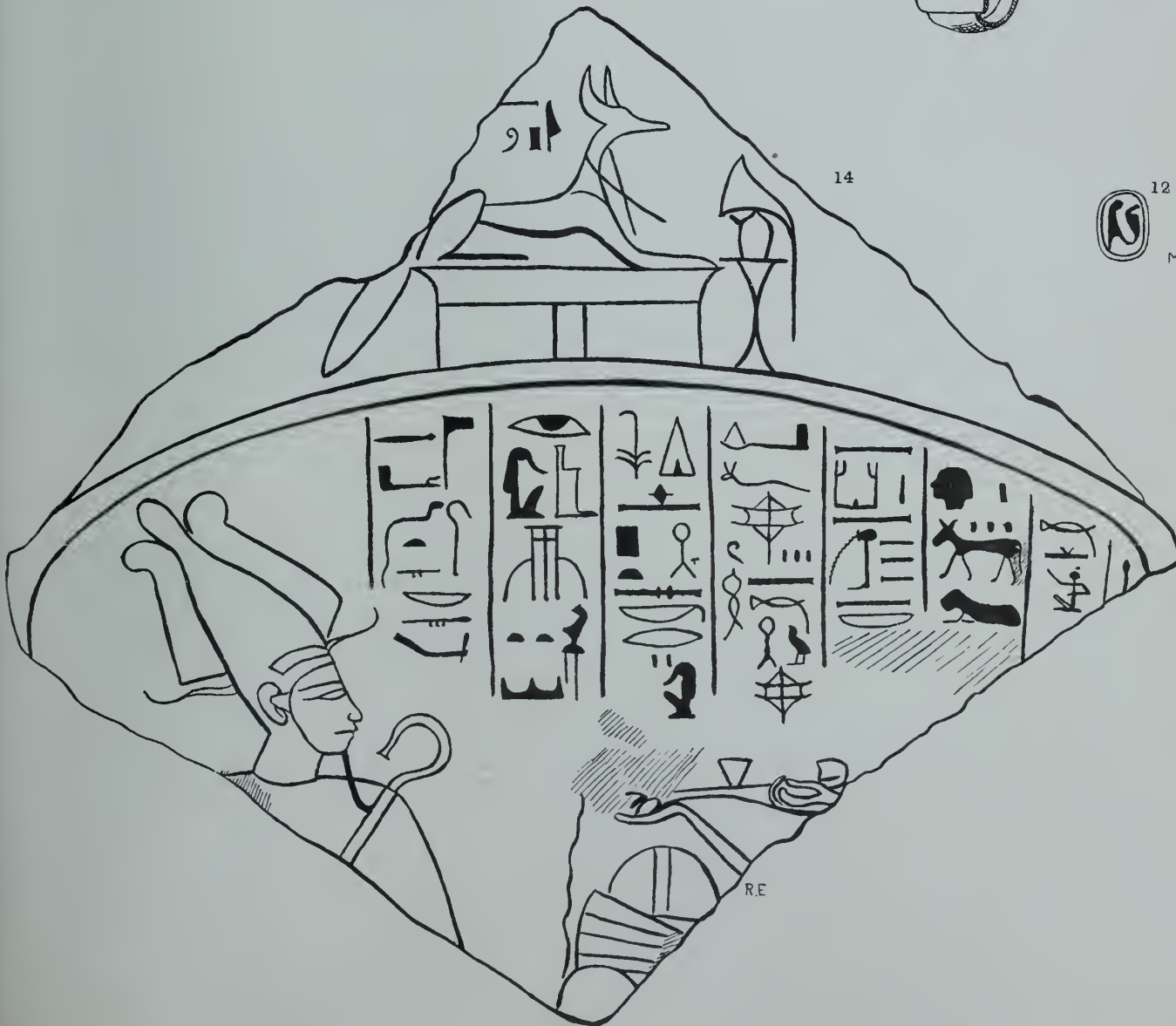
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1:1





1:1 TAURT AMULETS.



1:1 TOILET ARTICLES.



1:3 SYRIAN VASES.





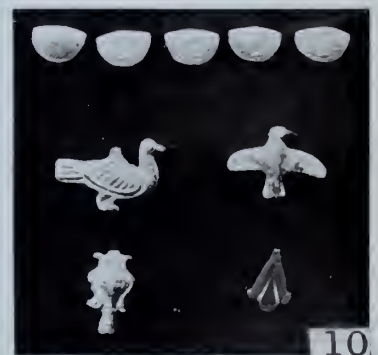
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2 : 3 BRONZE SPEARS.



2 : 3 STELE, XVIII DYNASTY.



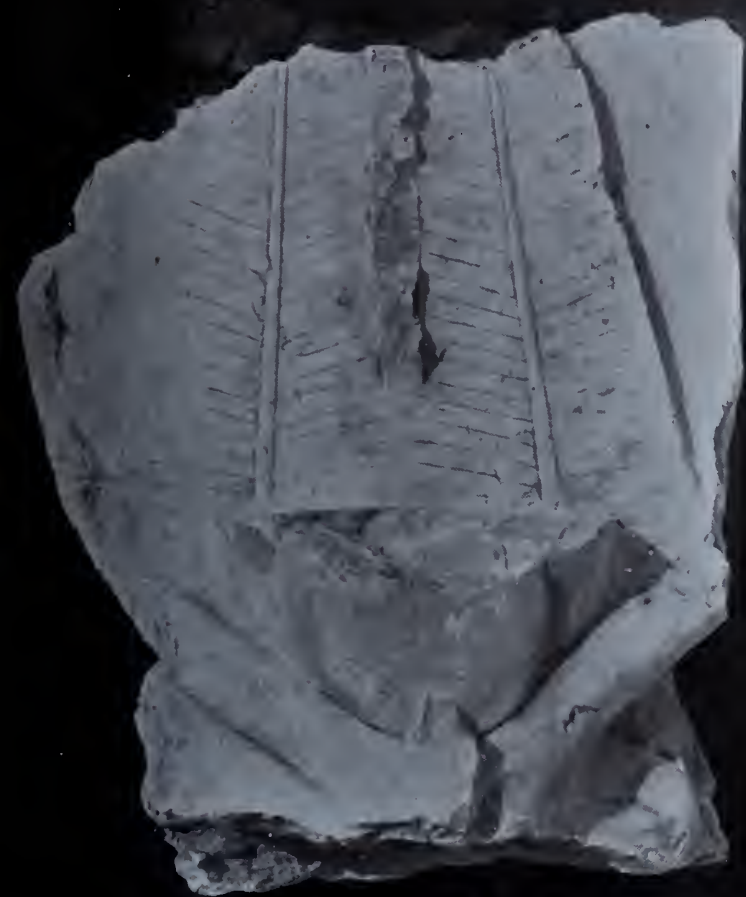
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2 : 3 PTAH-SOKAR, XXII D.







4



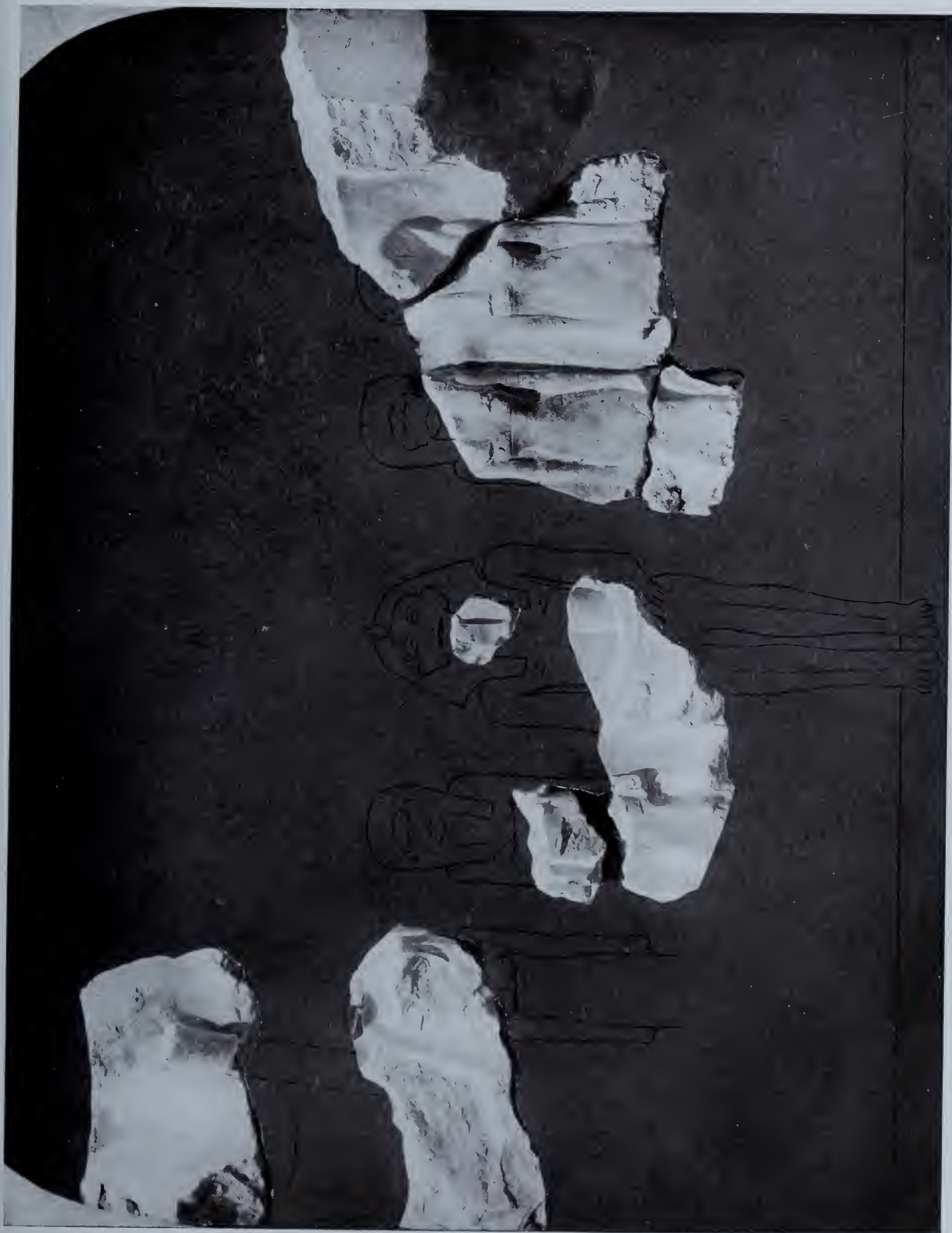
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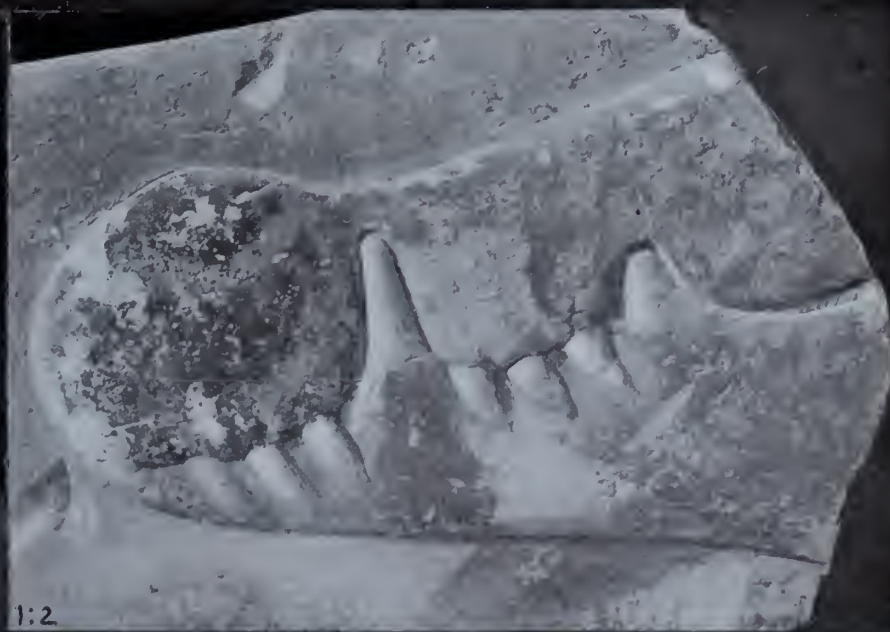
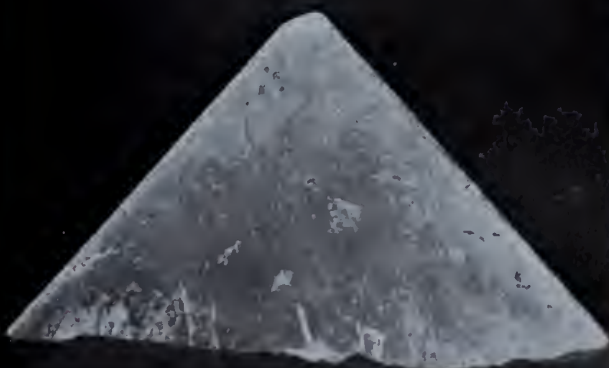


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1:7





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1:3

1:2



1:4

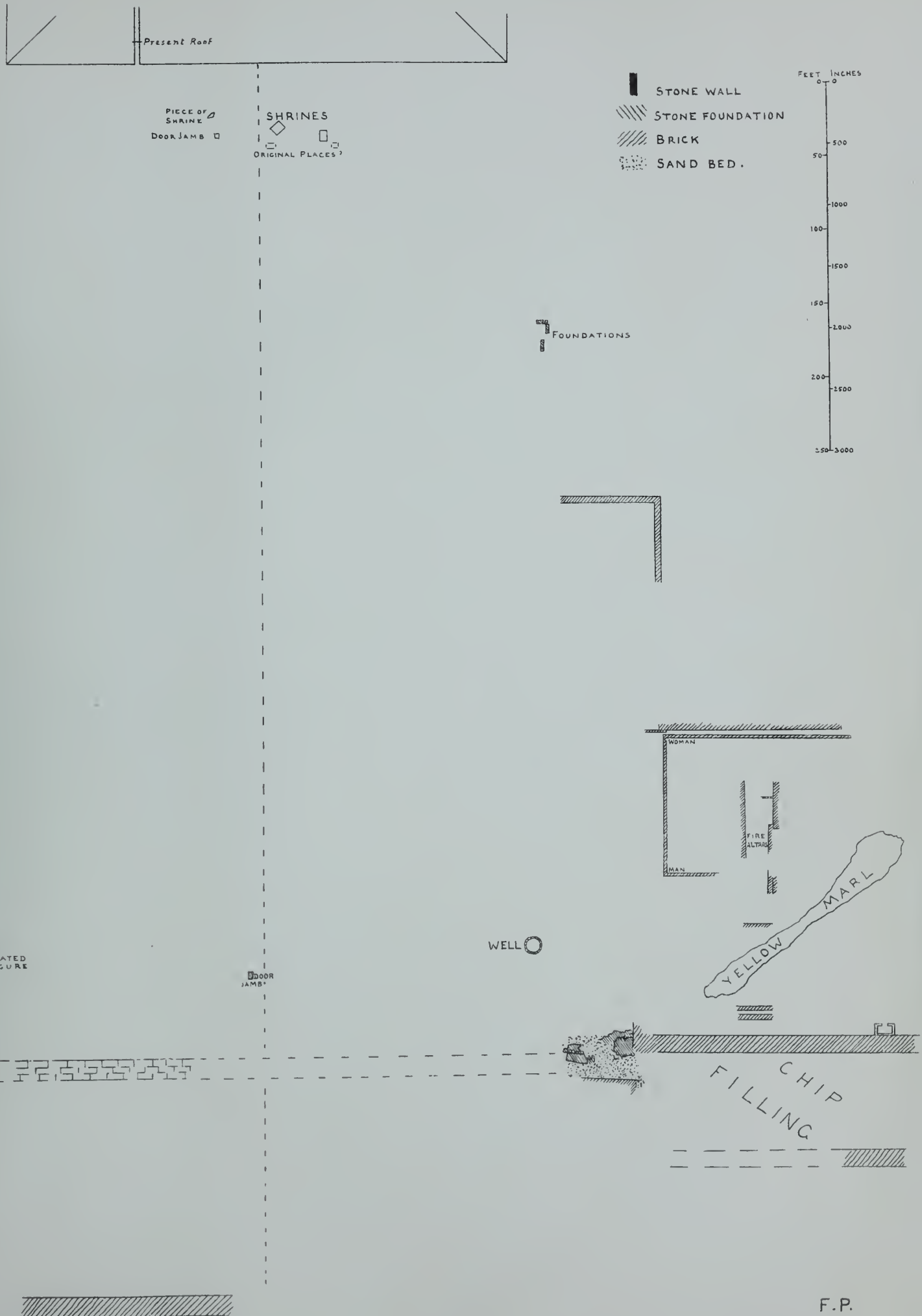


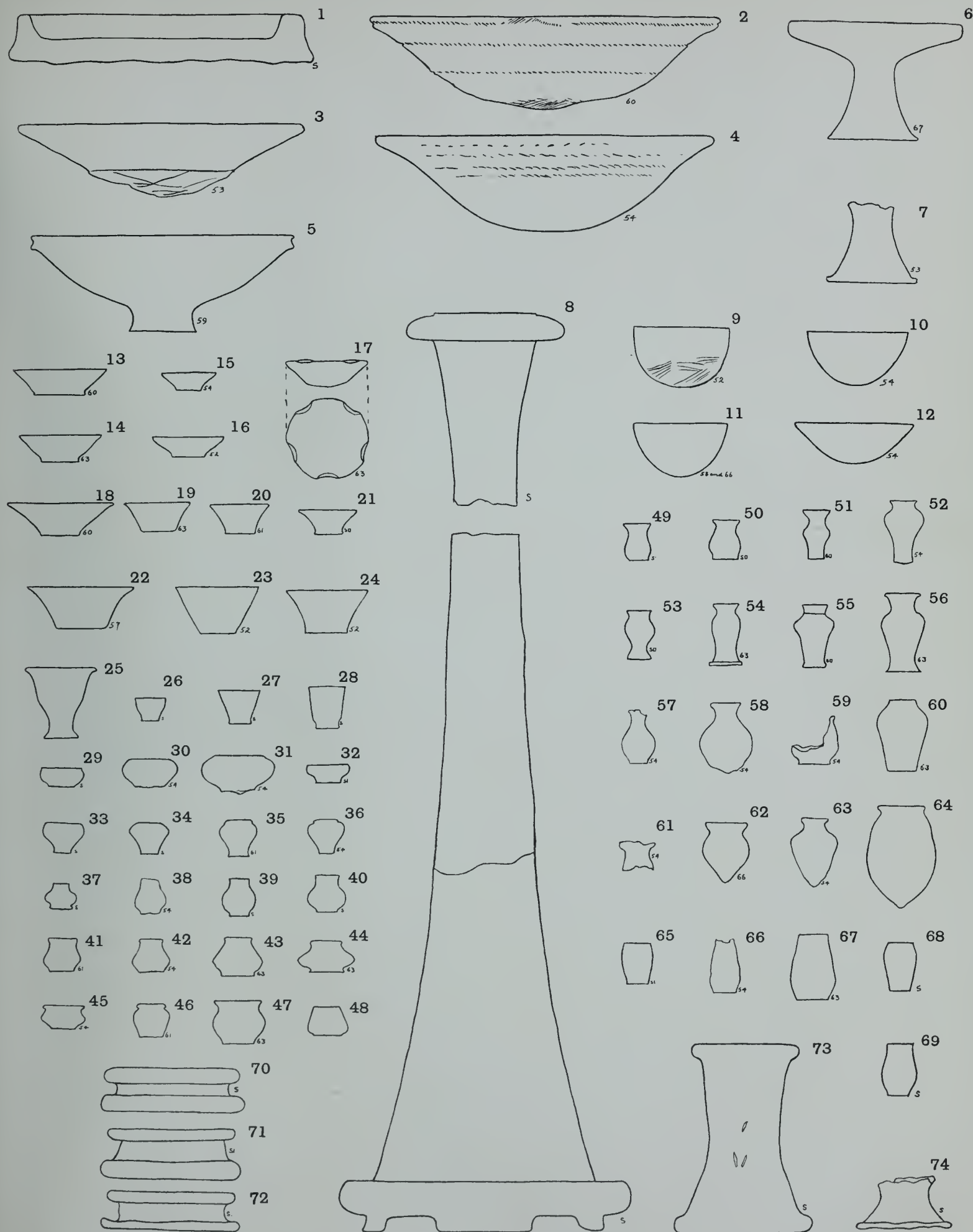
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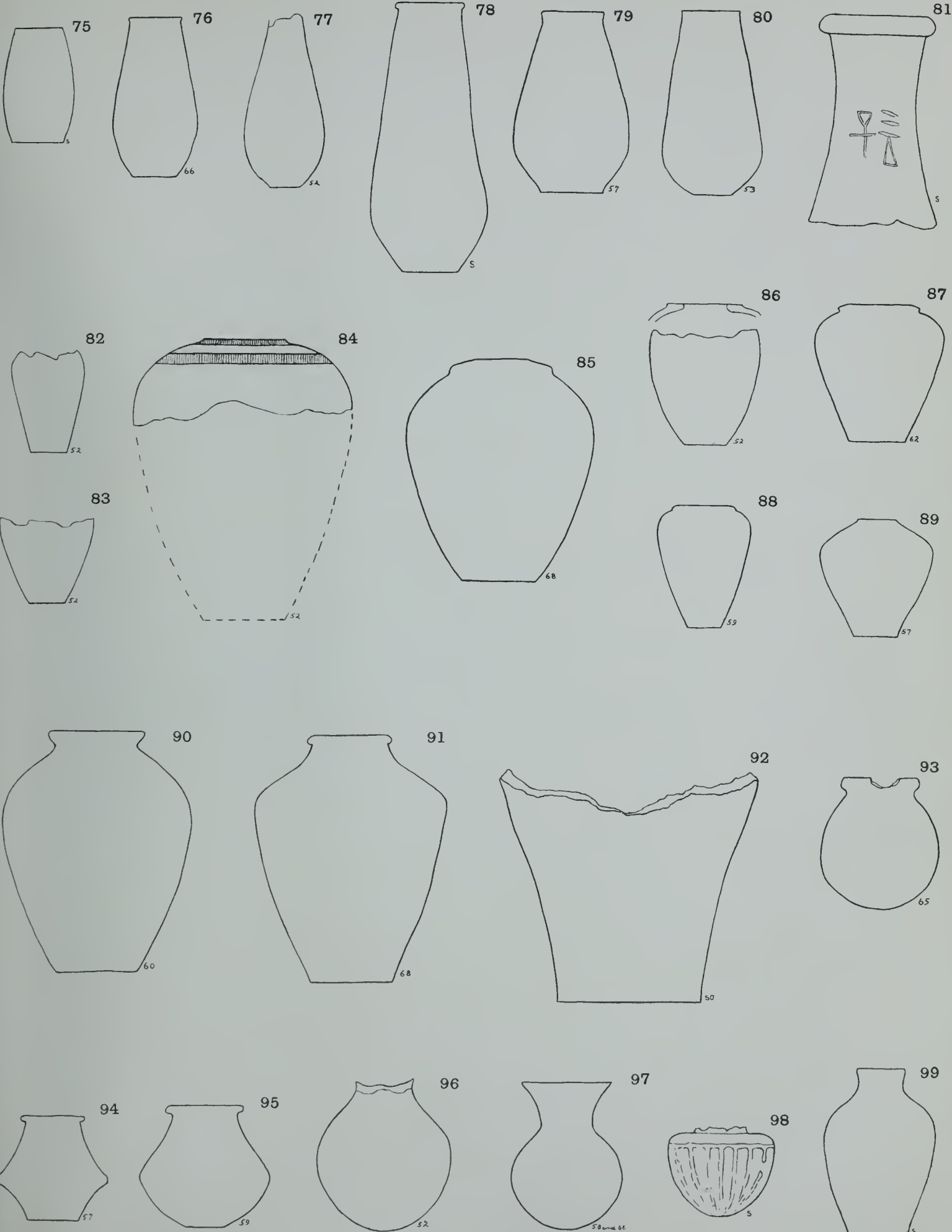


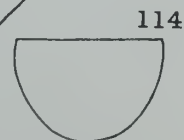
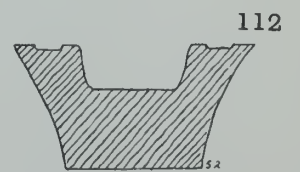
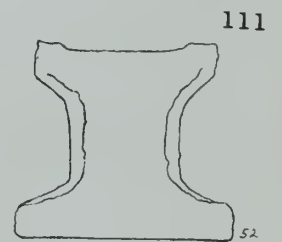
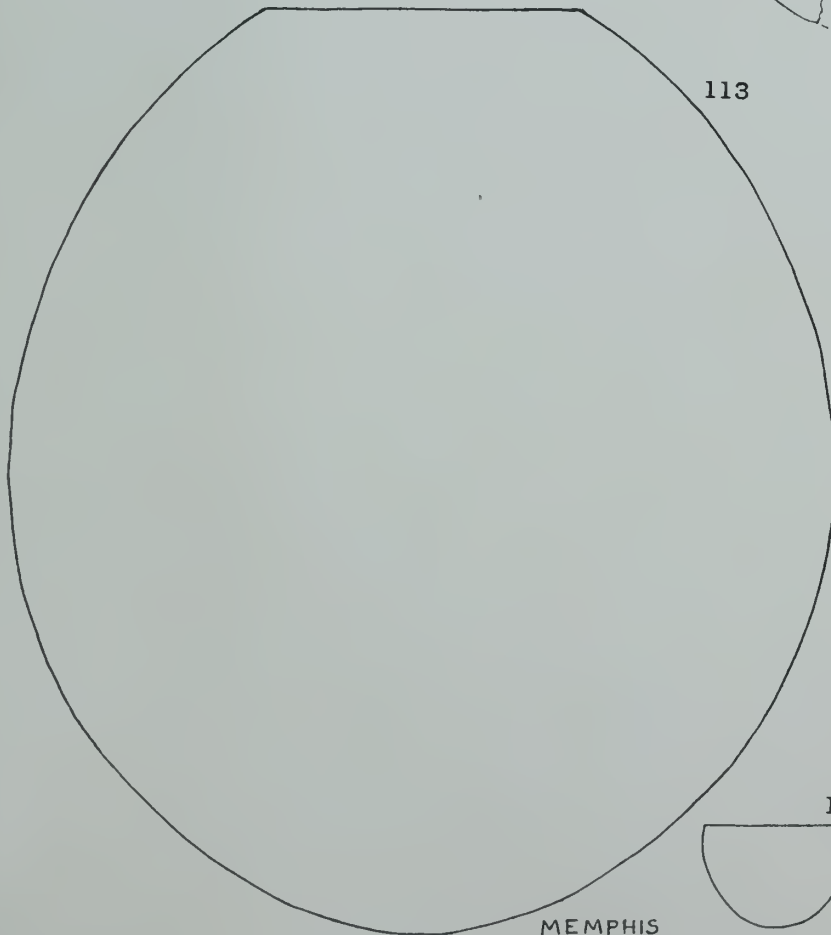
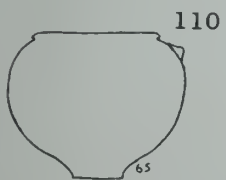
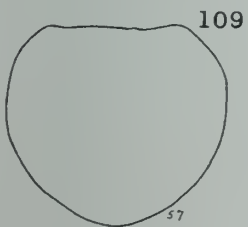
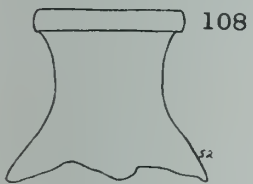
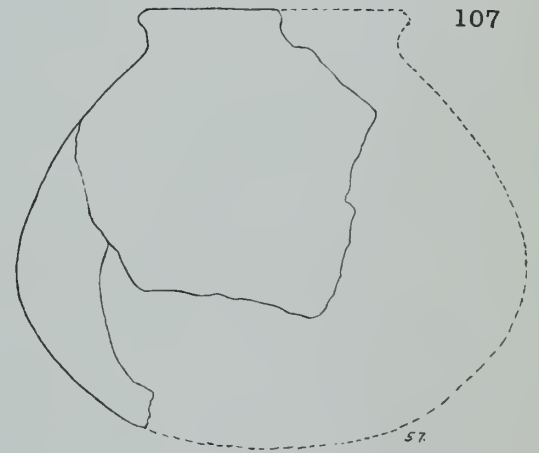
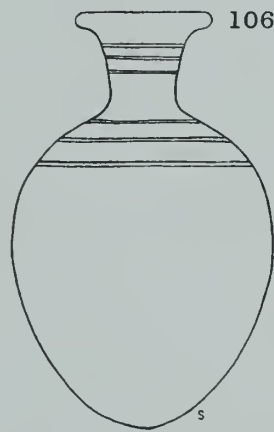
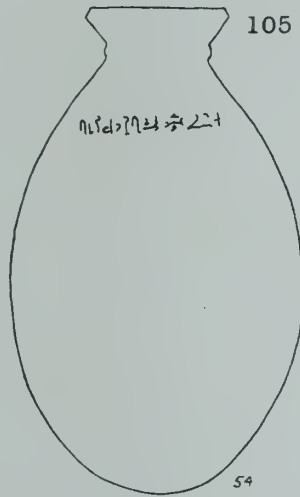
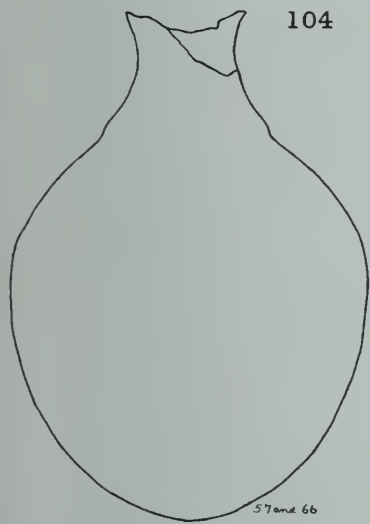
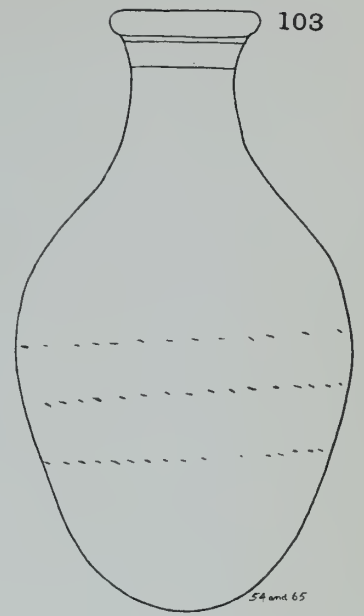
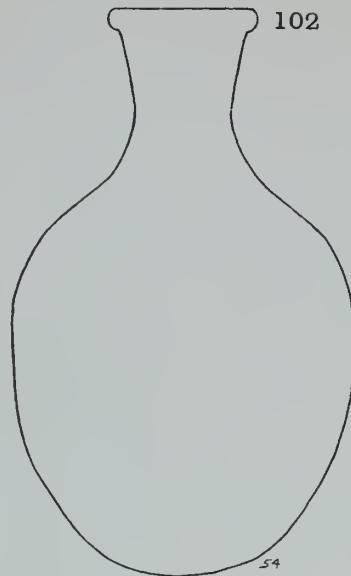
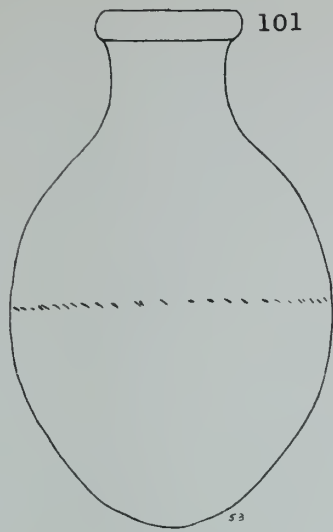
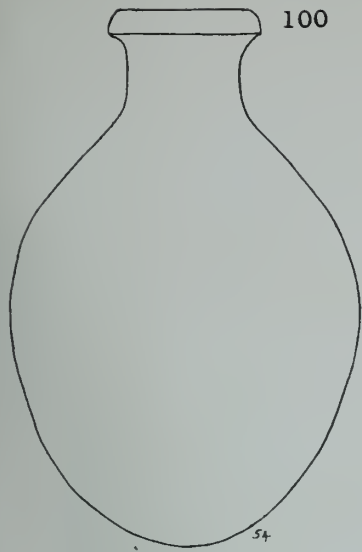


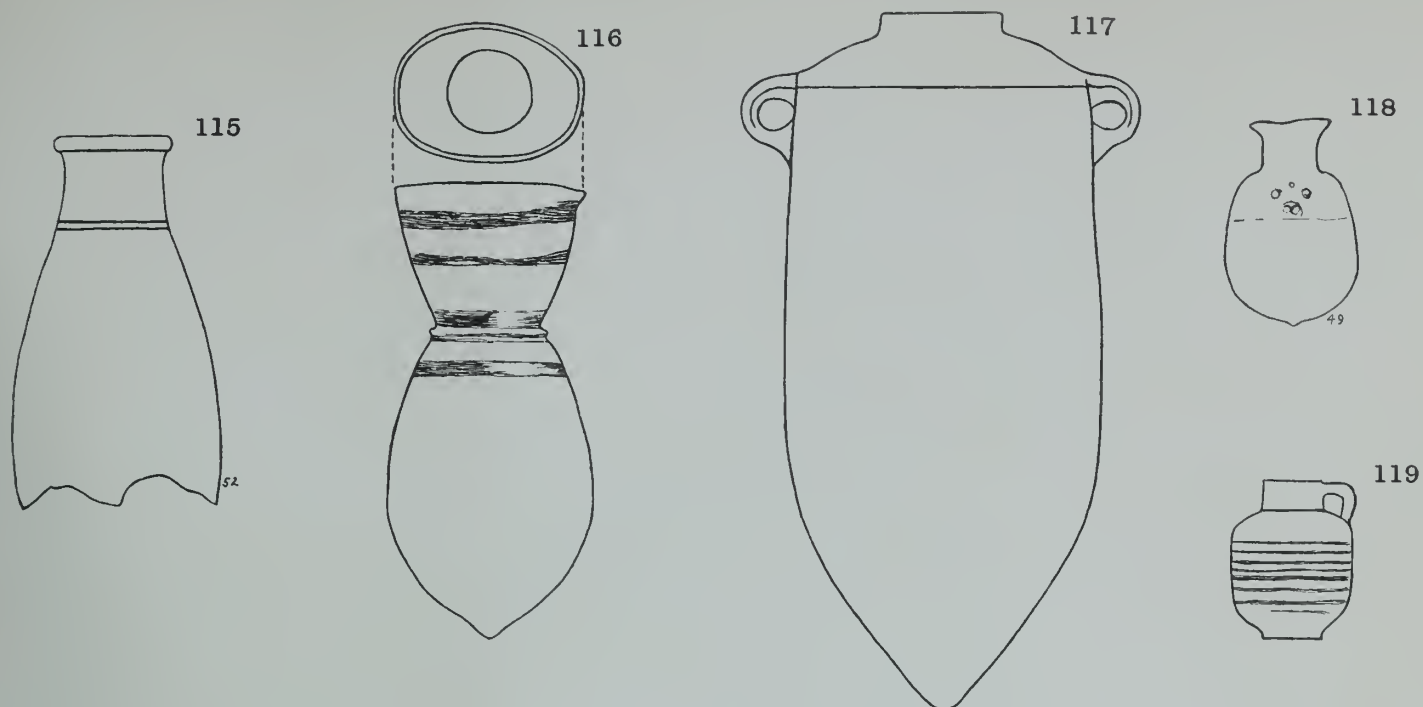






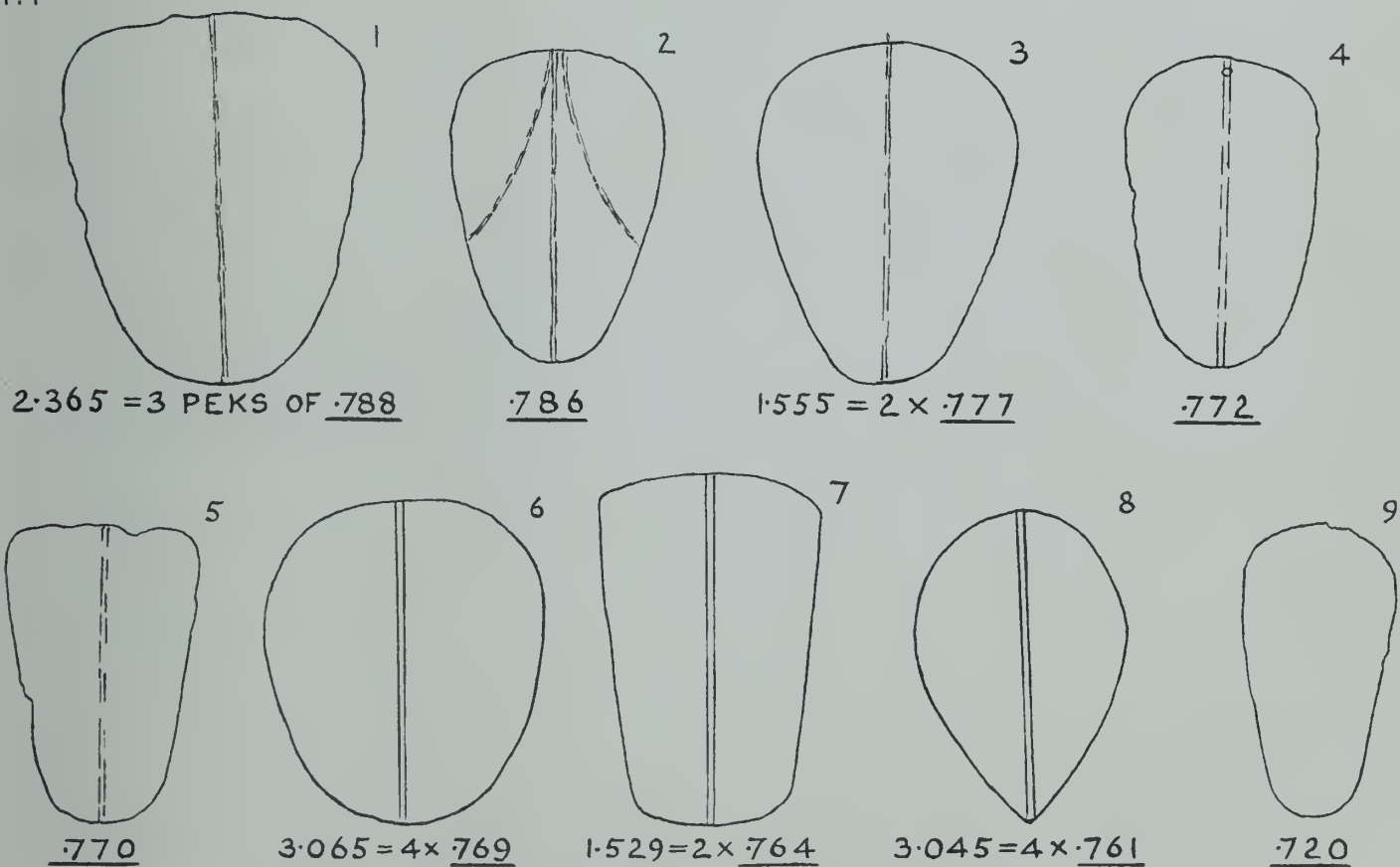
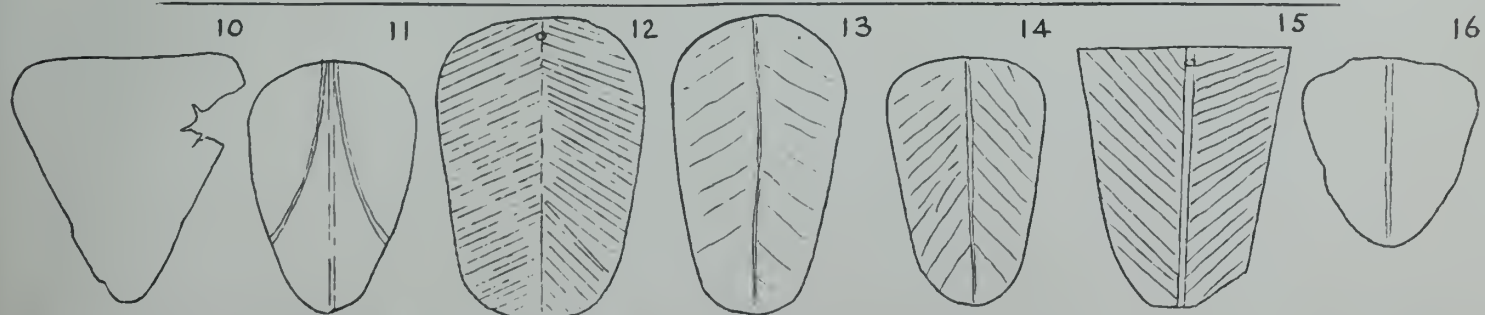




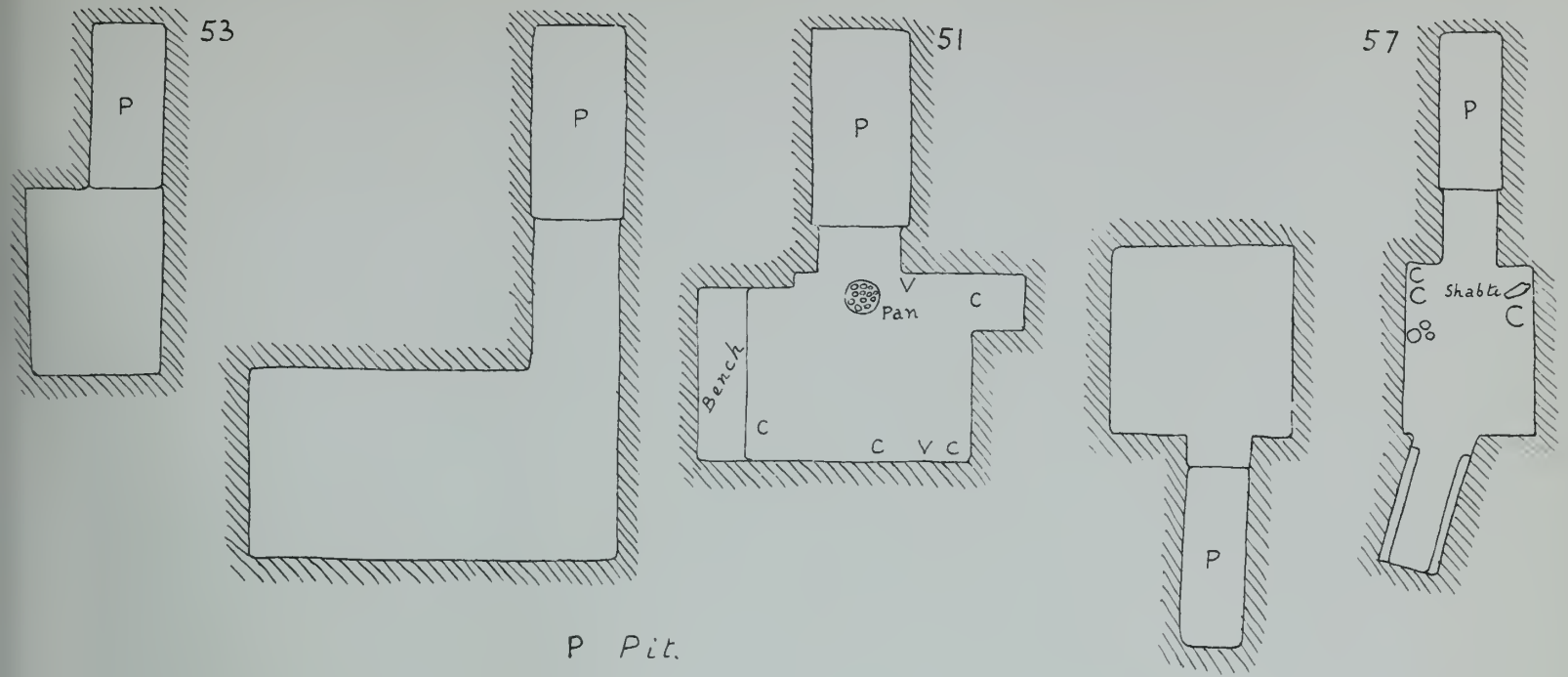


A.H.

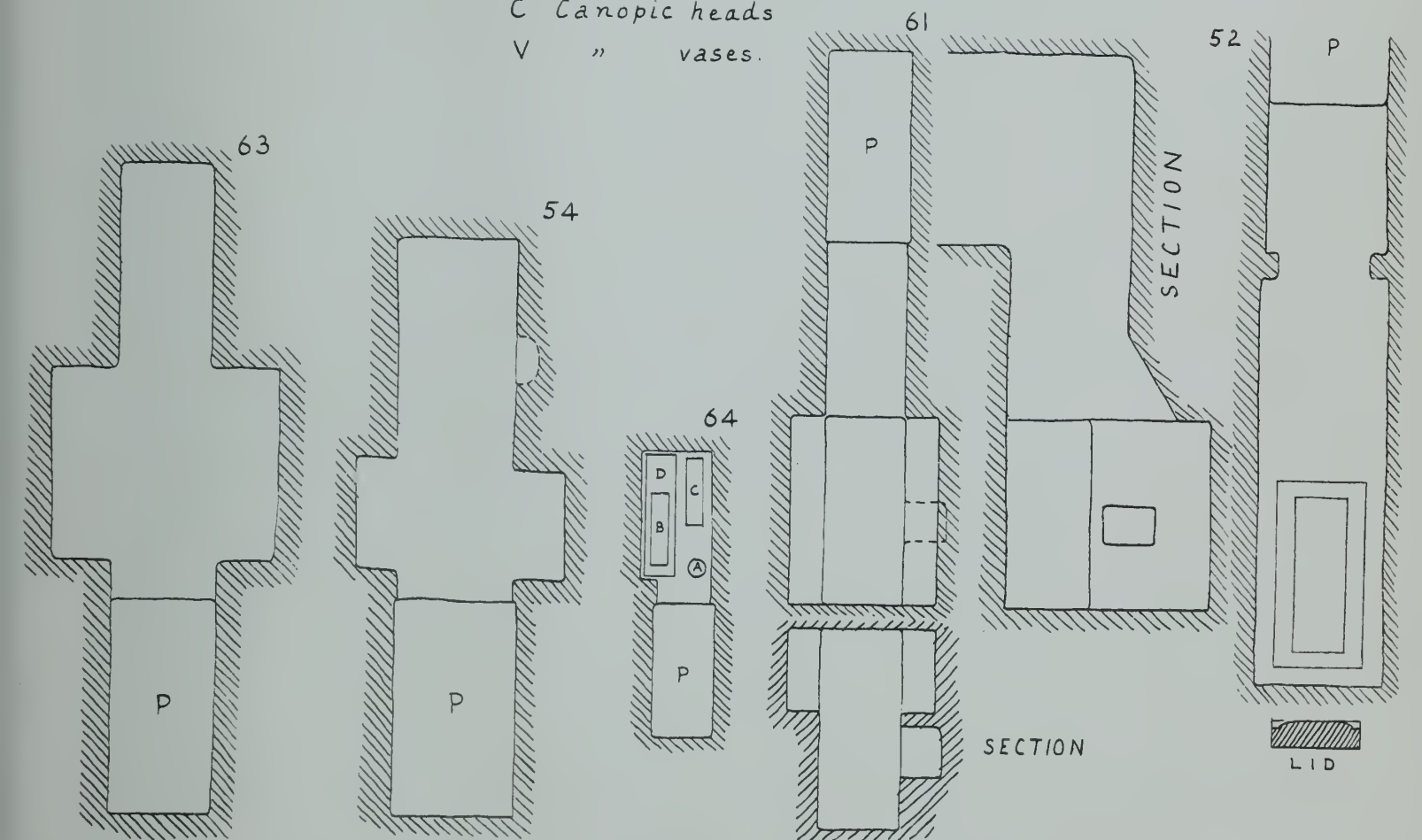
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 $2.365 = 3 \text{ PEKS OF } .788$ $.786$ $1.555 = 2 \times .777$ $.772$ $.770$ $3.065 = 4 \times .769$ $1.529 = 2 \times .764$ $3.045 = 4 \times .761$ $.720$ DEBEN 98-90 GRMS. $\frac{1}{128} = \text{PEK } .765-.70 \text{ G}$  $.565 = 4/10 \times 1.41$ $.42 = 3/10 \times 1.40$ $.691 = \frac{1}{2} \times 1.38$ $1.012 = \frac{3}{4} \times 1.35$ $.675 = \frac{1}{2} \times 1.35$ 1.33 $.65 = \frac{1}{2} \times 1.30$ SHEKEL 8.35-8.10 GRMS. $\frac{1}{6} = \text{SIKHIR } 1.39 - 1.35 \text{ G.}$

W.M.F.P.

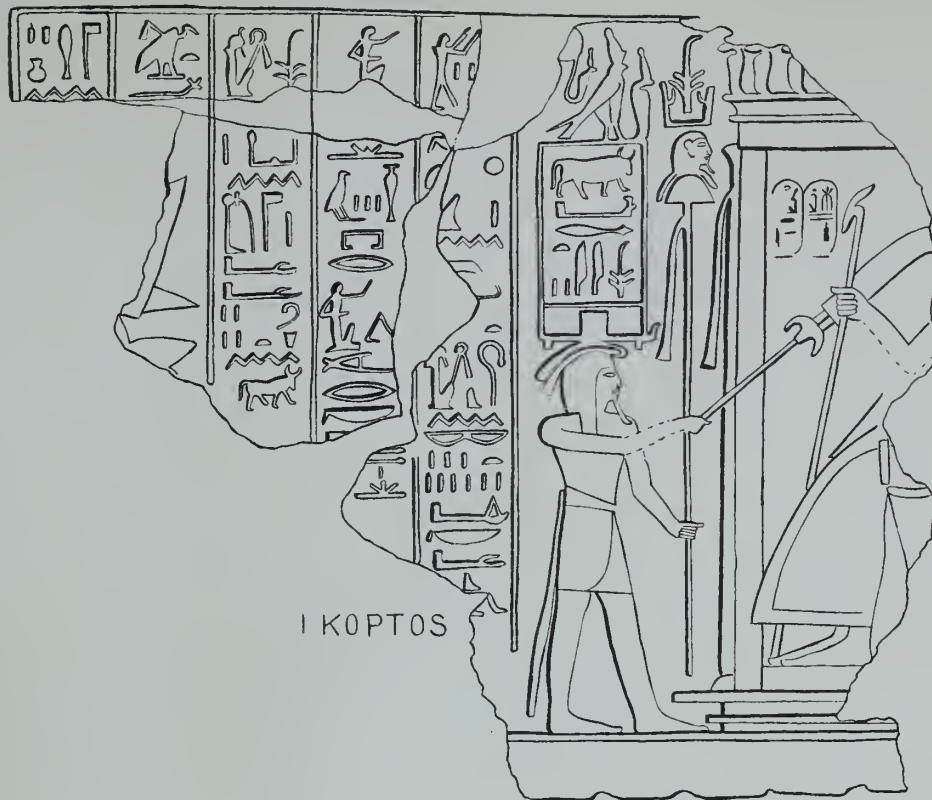


P Pit.
C Canopic heads
V " vases.



Below the architectural plans are several lines of hieroglyphic inscriptions. The inscriptions are arranged in two columns, with the left column containing the main text and the right column containing a smaller text. The inscriptions are written in a cursive style, typical of the XIITH Dynasty. The inscriptions are arranged in two columns, with the left column containing the main text and the right column containing a smaller text. The inscriptions are written in a cursive style, typical of the XIITH Dynasty. The inscriptions are arranged in two columns, with the left column containing the main text and the right column containing a smaller text. The inscriptions are written in a cursive style, typical of the XIITH Dynasty.

Inscriptions on Coffin D, Tomb 64.



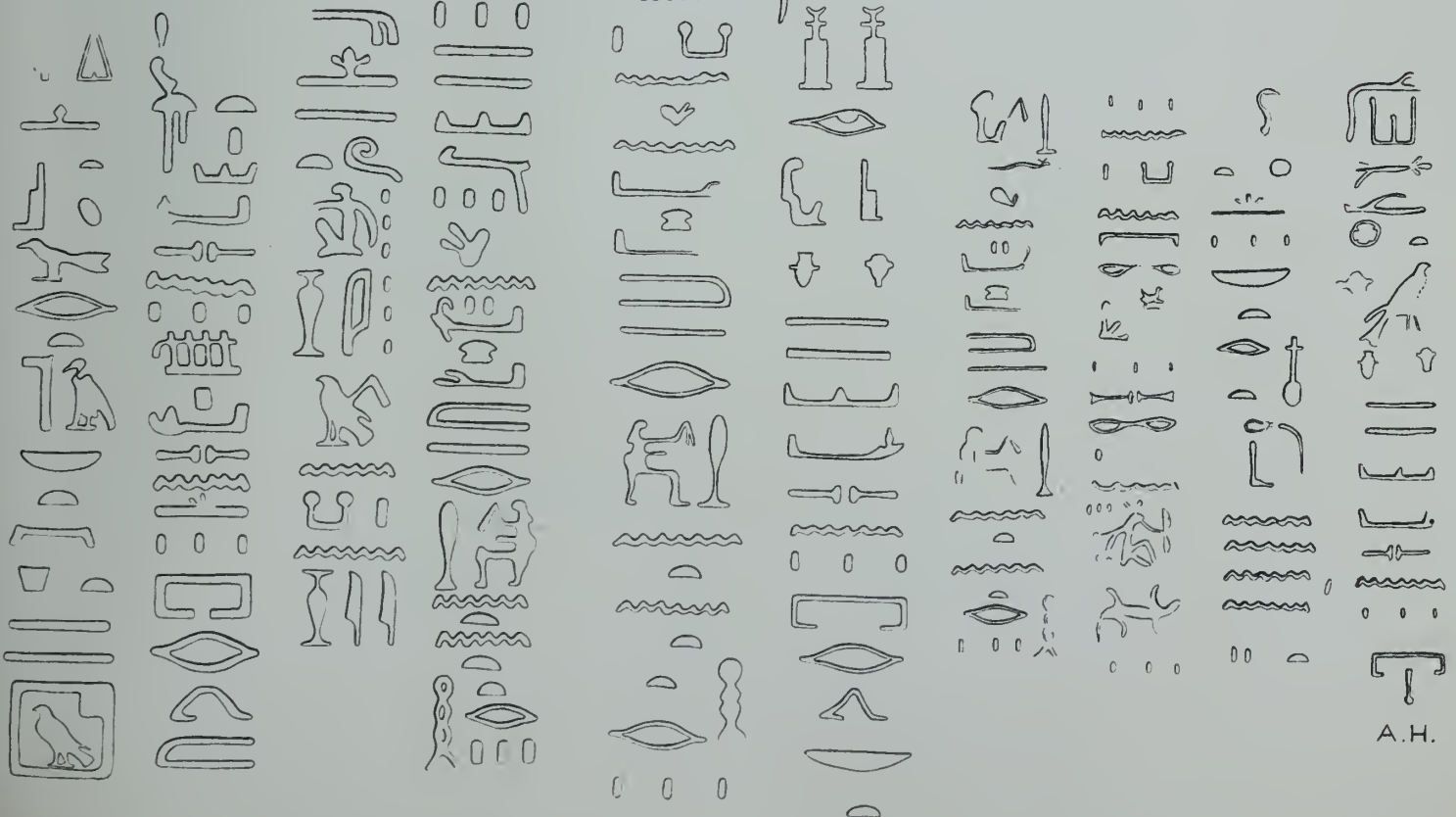
I KOPTOS

2 LABYRINTH

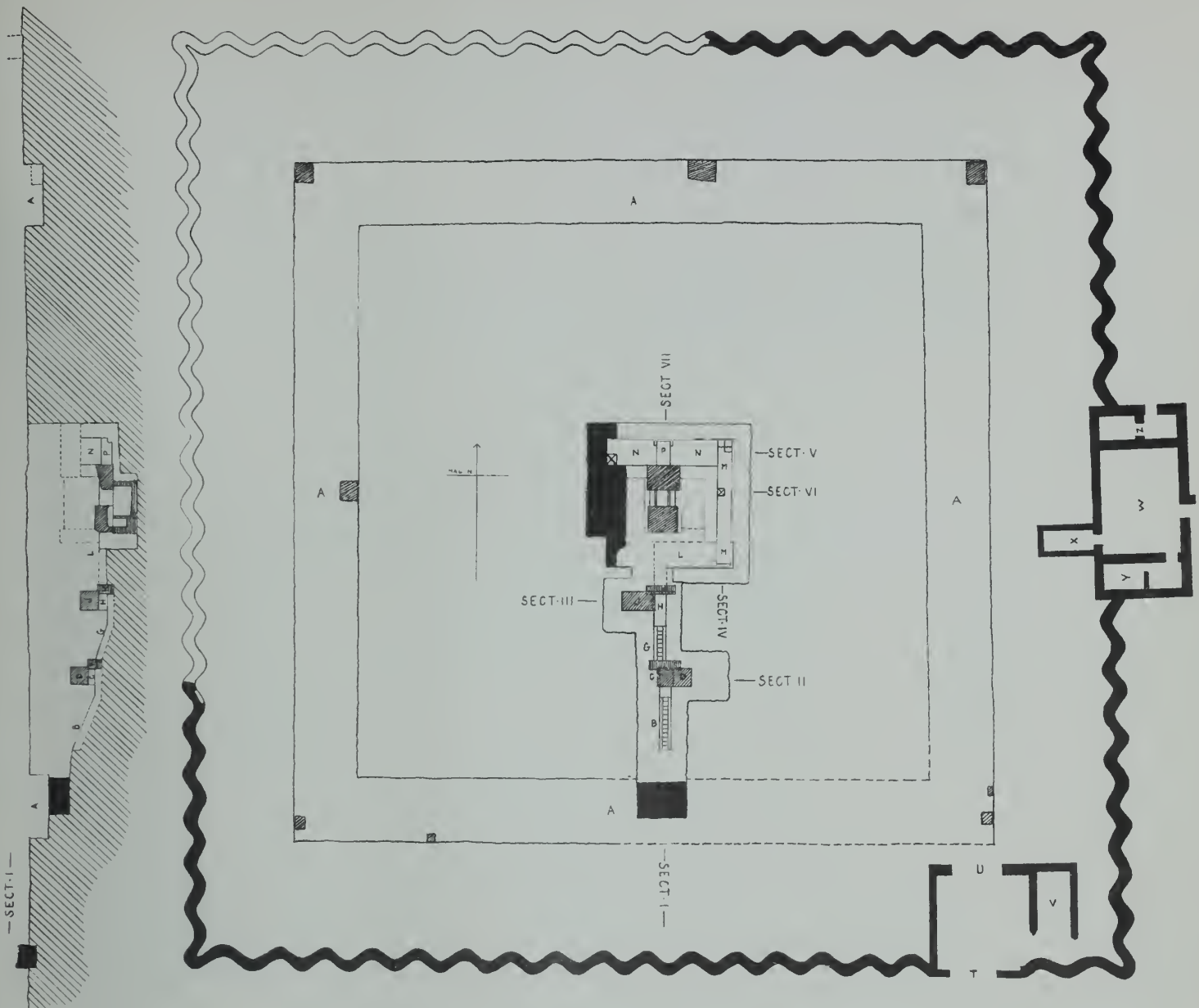
ΚΑΡΑΣΙΛΙΣΣΗΣΚΑΦΟ

F.P

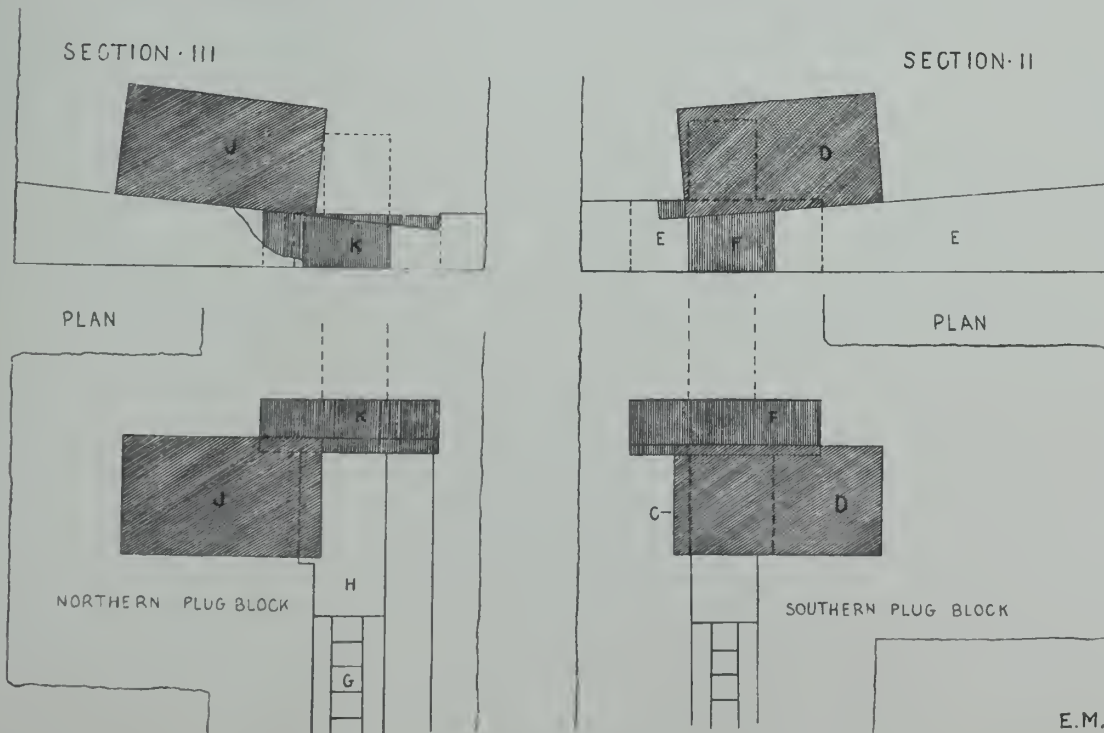
3



A.H.



PLANS AND SECTIONS OF PASSAGE TRAP-DOORS.



SECTION V

STONE WALLING

ROOFING BLOCKS

GREAT NORTHERN CHAMBER

N

M PASSAGE

PAVING

SARCOPHAGUS ROOFING BLOCK

P

G PASSAGE

PAVING

STONE WALLING

PAVING

PAVING

SECTION IV

ROOFING BLOCK

STONE WALLING

BENCH

STEPS

ROOFING BLOCKS

LONG EASTERN PASSAGE

M

FIRST FALSE PASSAGE

O

STONE WALLING

BENCH

STEPS

ROOFING BLOCK

This architectural plan, labeled 'SECTION IV', depicts a complex of structures. At the top, a large area is designated 'SECTION IV'. Below this, a central horizontal corridor is labeled 'LONG EASTERN PASSAGE' with a small 'M' centered underneath. To the left and right of this passage are large rectangular areas labeled 'BENCH'. Above the benches, there are sections labeled 'ROOFING BLOCK' and 'ROOFING BLOCKS'. The outermost vertical sections on both sides are labeled 'STONE WALLING'. At the bottom of the plan, a small rectangular area is labeled 'FIRST FALSE PASSAGE' with a small 'O' centered underneath. The plan uses various hatching patterns to distinguish between different materials or structures: diagonal lines for stone walls, cross-hatching for roofing blocks, and stippling for the benches.

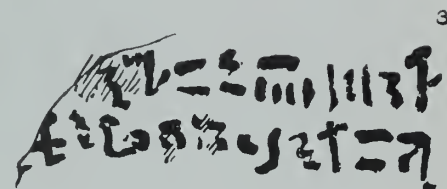
Architectural plan of Section VI, showing the sarcophagus chamber and surrounding areas. The plan includes the following labeled features:

- Lintel Stones of Chamber**: The top horizontal boundary of the chamber.
- Side Wall of Sarcophagus Chamber**: The left and right vertical boundaries of the chamber.
- Chamber**: The central rectangular area.
- Back**: The bottom boundary of the chamber.
- Well**: A small rectangular feature at the bottom left.
- Passage**: A narrow opening at the bottom center.
- First False Passage**: A rectangular area at the bottom right.
- Third False Passage**: A rectangular area at the bottom left, below the well.
- Section VI**: The title of the plan, located at the bottom right.

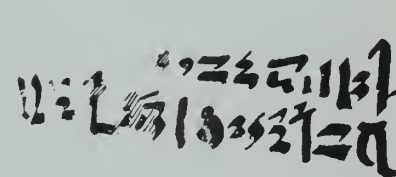
The diagram is a floor plan of a complex structure, possibly a tomb or a fortified building. It features several chambers and passages, with some areas marked as destroyed or supposed walls. The plan includes the following labeled areas and features:

- CHAMBER N**: Located on the left side of the plan.
- CHAMBER M**: Located at the top left.
- DESTROYED CHAMBER L**: Located on the right side of the plan.
- PASSAGE**: Multiple passages are shown, including a central one and others connecting the chambers.
- WALLING**: Indicated by dashed lines and labels for various wall sections.
- SUPPOSED WALL**: A vertical wall section on the right side.
- FIRST FALSE PASSAGE**: A passage area marked with a cross and labeled 'Q'.
- SECOND FALSE PASSAGE**: A passage area marked with a cross and labeled 'P'.
- THIRD FALSE PASSAGE**: A passage area marked with a cross and labeled 'R'.
- STEPS**: Indicated by small rectangular symbols with the word 'STEPS' written next to them.
- BENCH**: Indicated by small rectangular symbols with the word 'BENCH' written next to them.

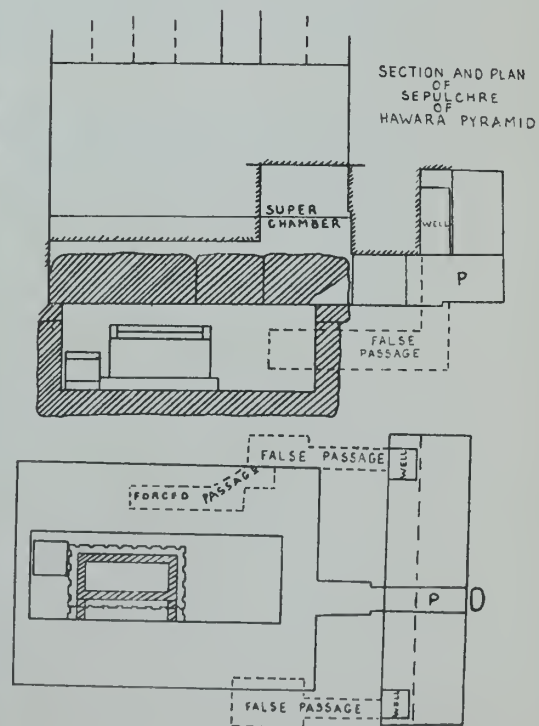
The plan uses solid lines for walls, dashed lines for supposed or destroyed walls, and cross symbols to mark specific points of interest or false passages. The overall layout suggests a complex internal structure with multiple levels or rooms.



3



1

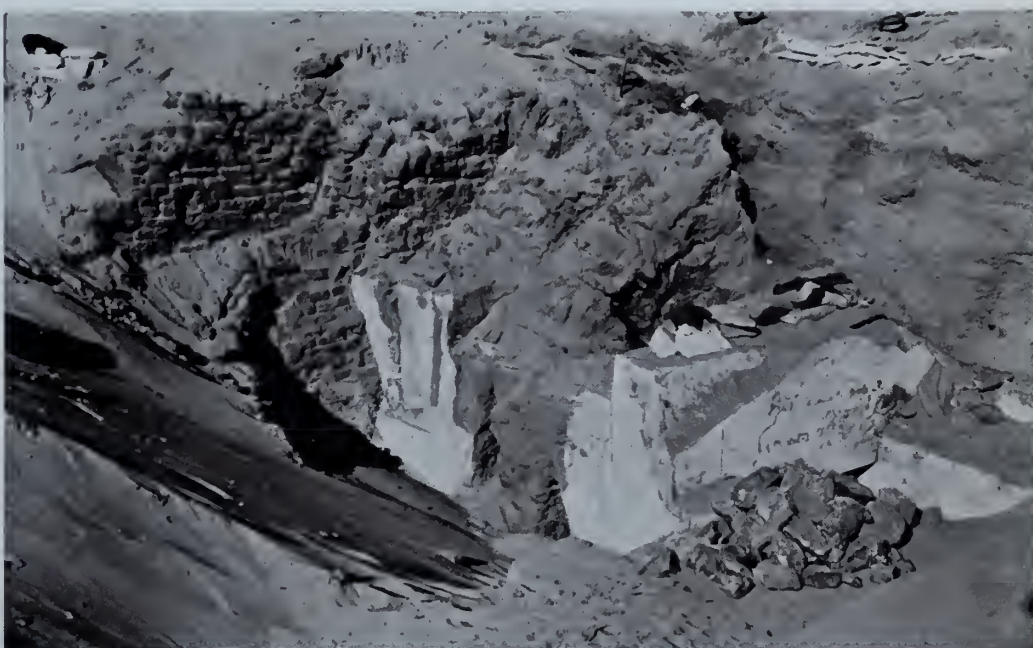


E.M.

BRICK LINING OF PYRAMID TRENCH
AND FOUNDATION BLOCK.



ROOFING BLOCKS OF
GREAT NORTHERN CHAMBER AND
REMAINS OF PYRAMID BRICKWORK.



SARCOPHAGUS CHAMBER SHOWING
SOUTHERN ROOFING BLOCK OF
SARCOPHAGUS.

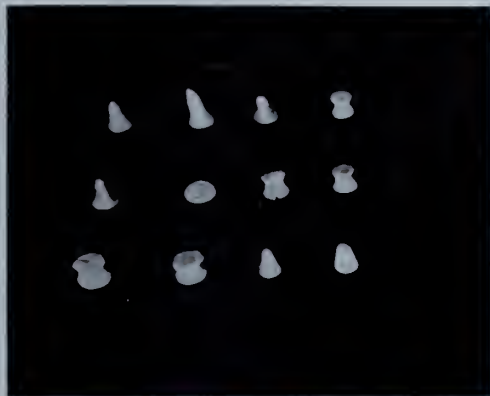




ALABASTER DUCK JAR, XII DYN



NORTHERN END OF TOMB CUTTING.



SET OF 12 DRAUGHTSMEN, XVIII DYN.



NORTHERN END OF TOMB.



STONE STOOL, XVIII DYN.?



SOUTHERN END OF TOMB.



UNFINISHED STONE STOOL, XVIII DYN.?



SOUTHERN WAVY WALL.



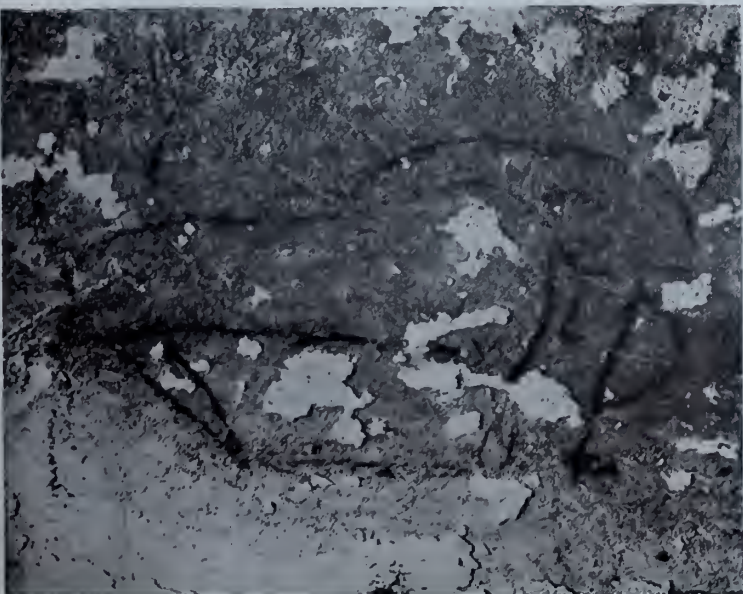
STEPS AT NORTH OF EASTERN PASSAGE.



MUD OFFERING VESSELS FROM
CEMETERY, XVIII DYN.



STEPS AT NORTH OF SECOND FALSE PASSAGE.

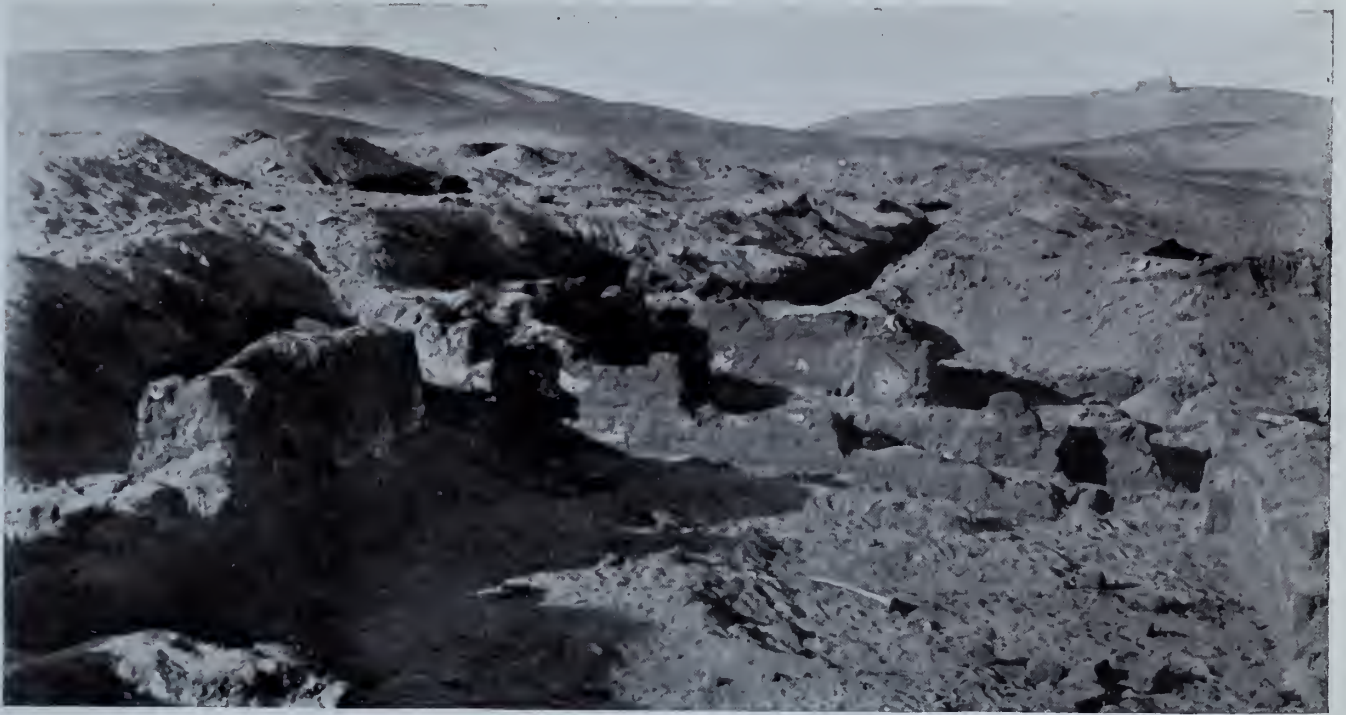


CHARCOAL DRAWING IN NORTHERN CHAMBER.



ENTRANCE TO FIRST FALSE PASSAGE.

LOOKING NORTH.



LOOKING WEST.

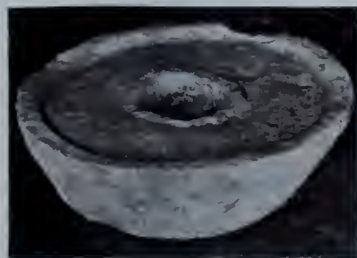


LOOKING SOUTH.





ARTICLES FROM CHILD'S GRAVE, ROMAN.



STONE LAMPS.



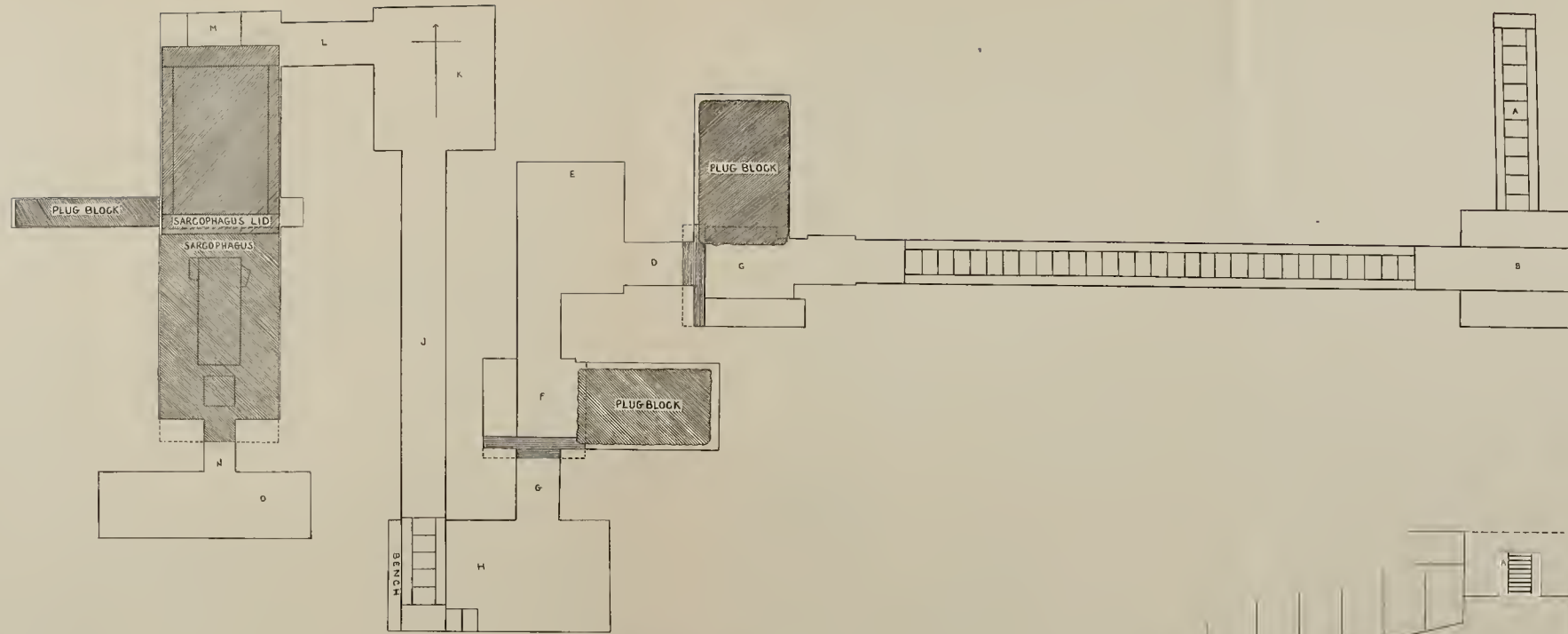
MODEL OF CHAMBERS OF NORTH PYRAMID.



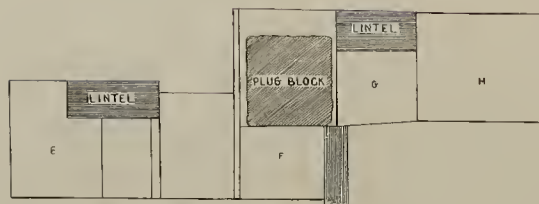
FIRE ALTARS (HAWARA).



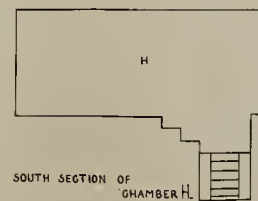
V. DYN. GRAVE (MAZGHUNEH).



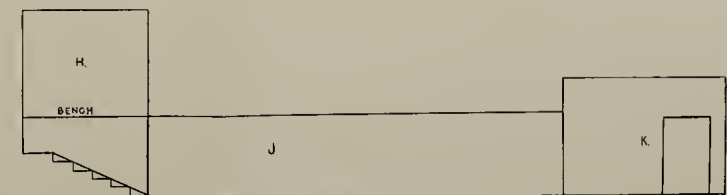
NORTH SECTION OF ENTRANCE PASSAGE & PLUG CHAMBER G.



EAST SECTION OF CHAMBER E & PLUG CHAMBER F.



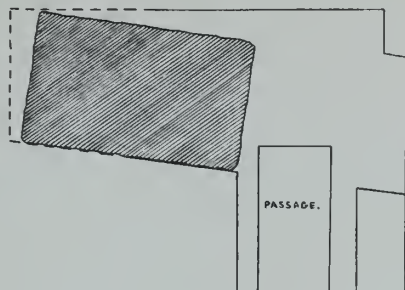
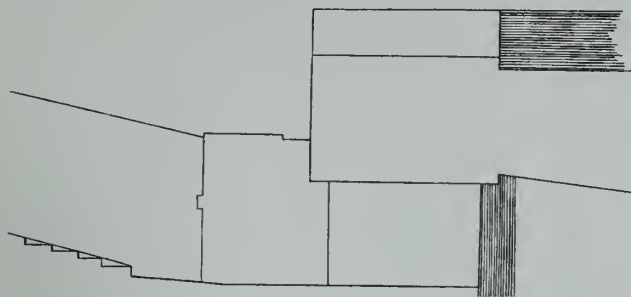
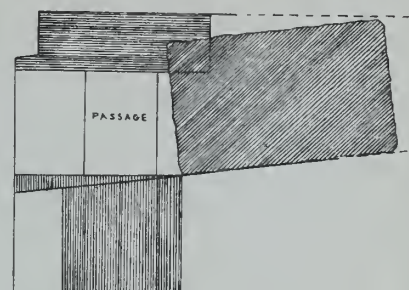
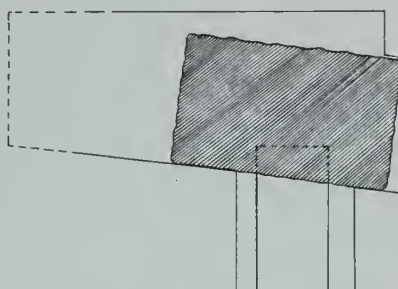
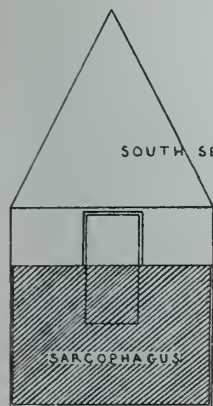
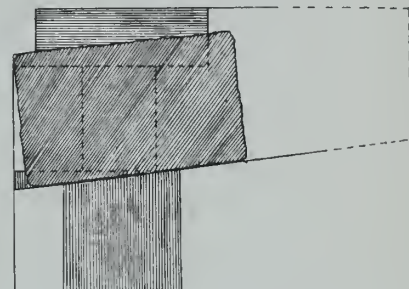
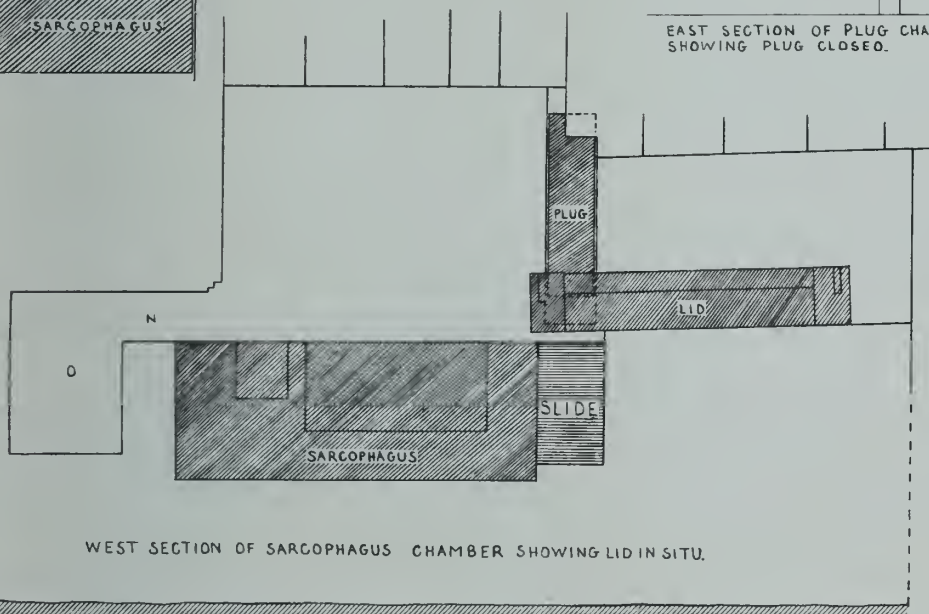
SOUTH SECTION OF CHAMBER H.



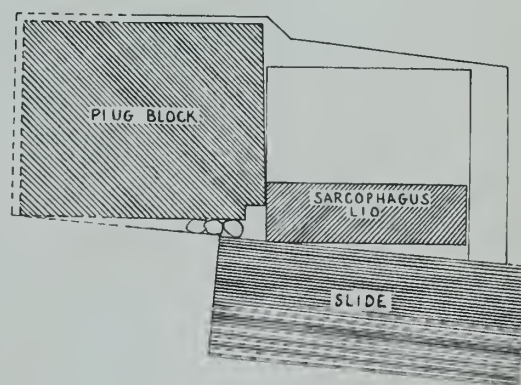
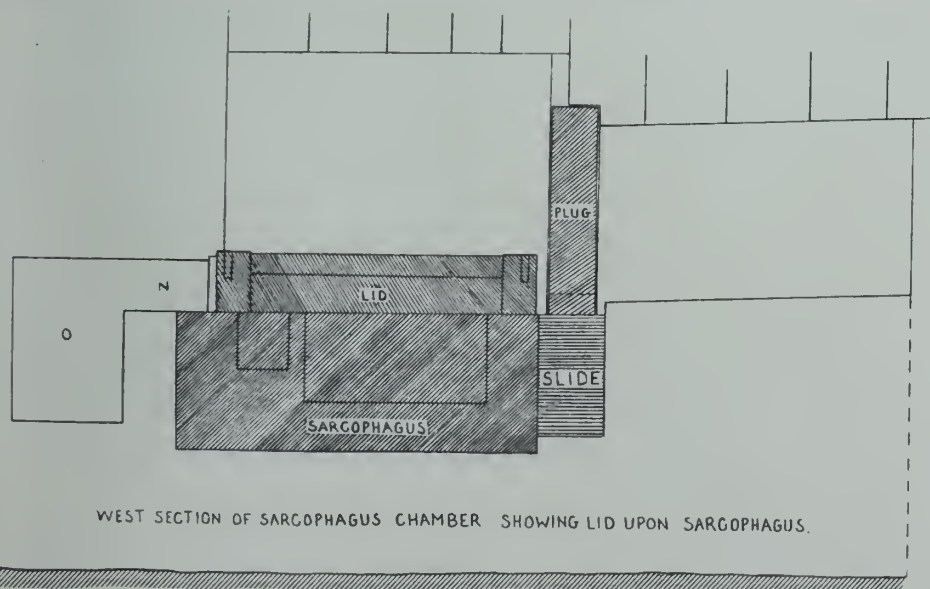
WEST SECTION OF CHAMBER H & PASSAGE J.

E.M.

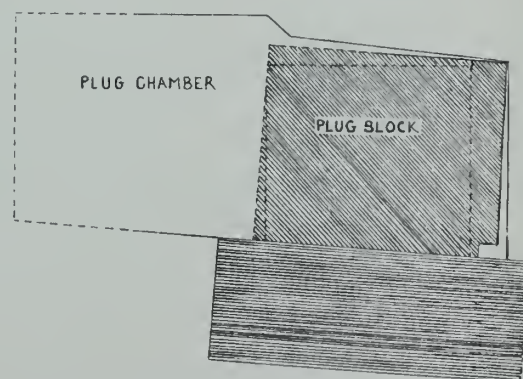
SOUTH SECTION OF PLUG CHAMBER G

EAST SECTION OF PLUG CHAMBER G
SHOWING PLUG OPEN.WEST SECTION OF PLUG CHAMBER G
SHOWING PLUG OPEN.SOUTH SECTION OF SARCOPHAGUS
CHAMBEREAST SECTION OF PLUG CHAMBER G
SHOWING PLUG CLOSED.WEST SECTION OF PLUG CHAMBER G
SHOWING PLUG CLOSED.

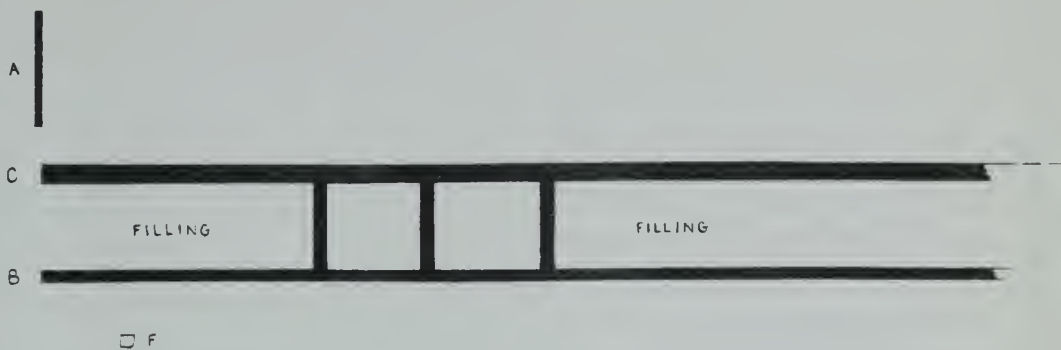
WEST SECTION OF SARCOPHAGUS CHAMBER SHOWING LID IN SITU.

NORTH SECTION OF PLUG CHAMBER
SHOWING PLUG IN SITU.

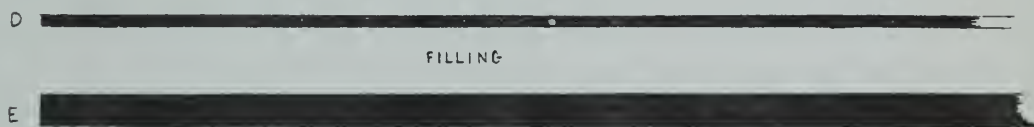
WEST SECTION OF SARCOPHAGUS CHAMBER SHOWING LID UPON SARCOPHAGUS.

NORTH SECTION OF PLUG CHAMBER
SHOWING PLUG CLOSED.

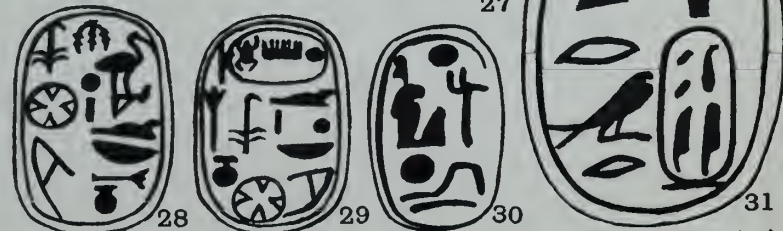
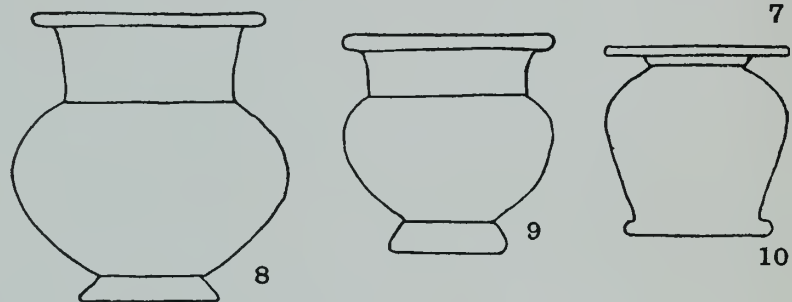
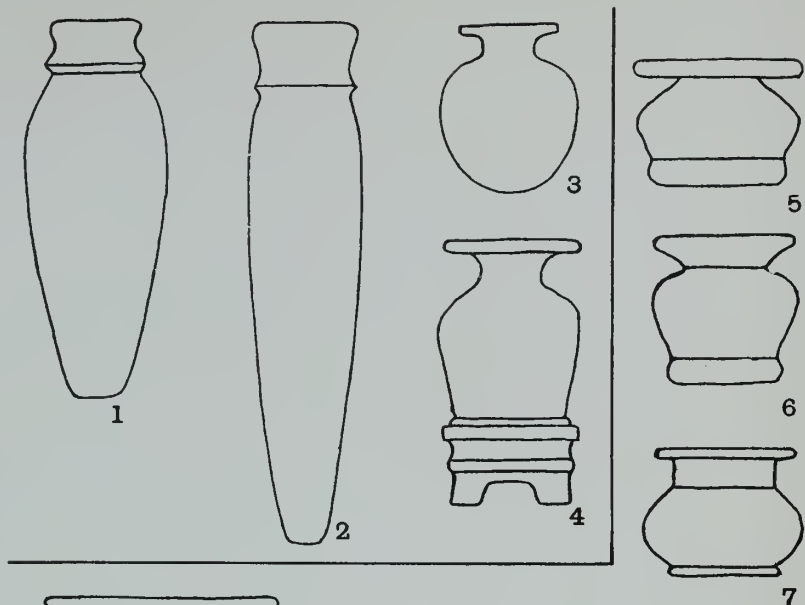
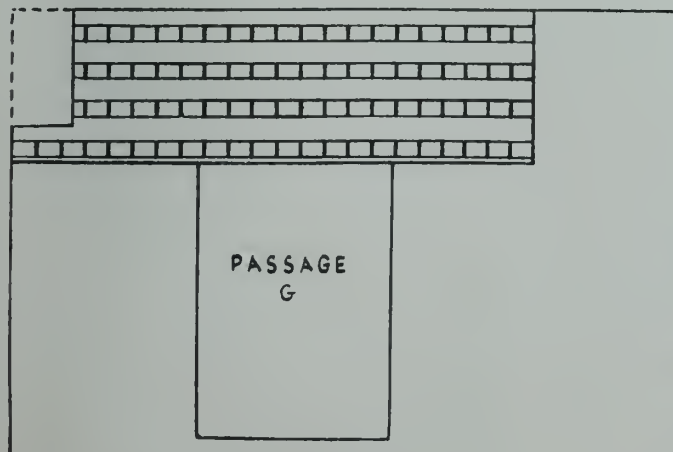
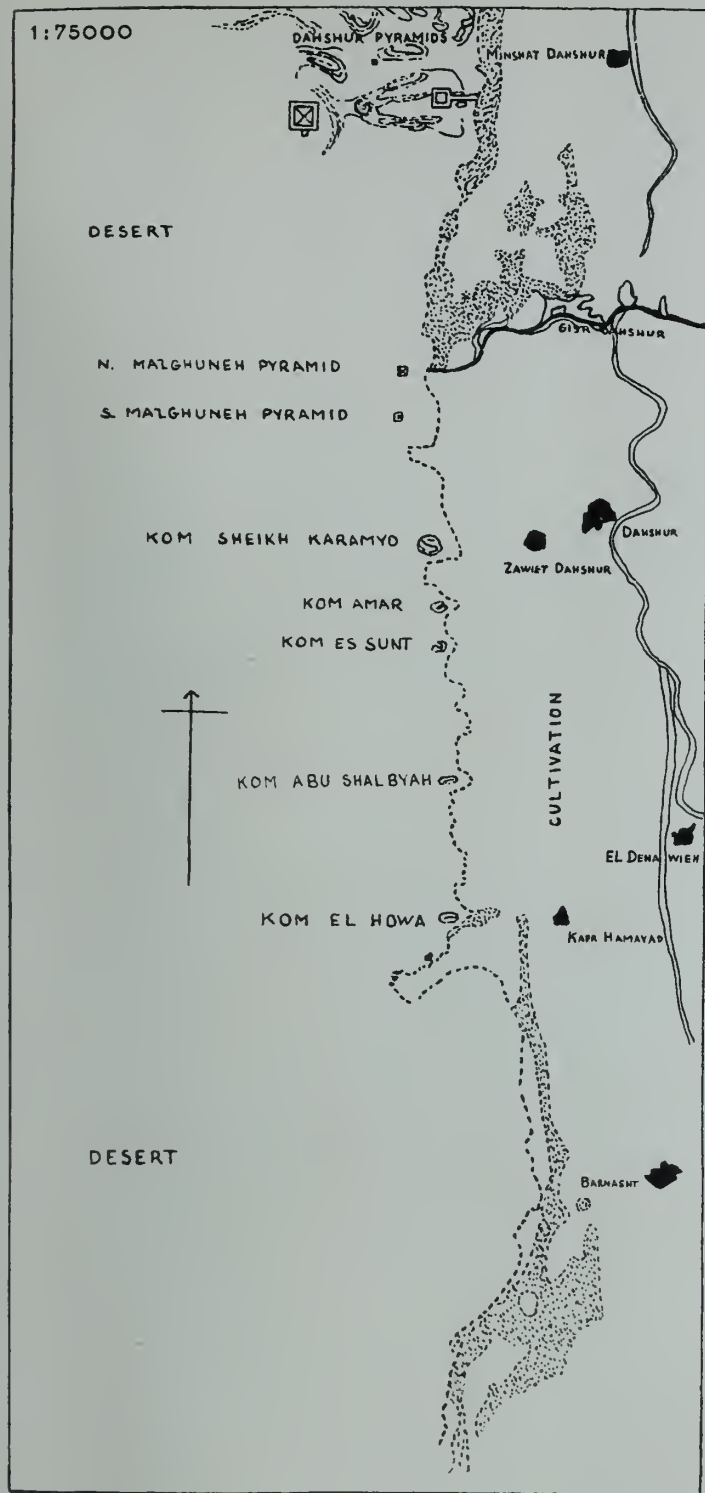
E.M.

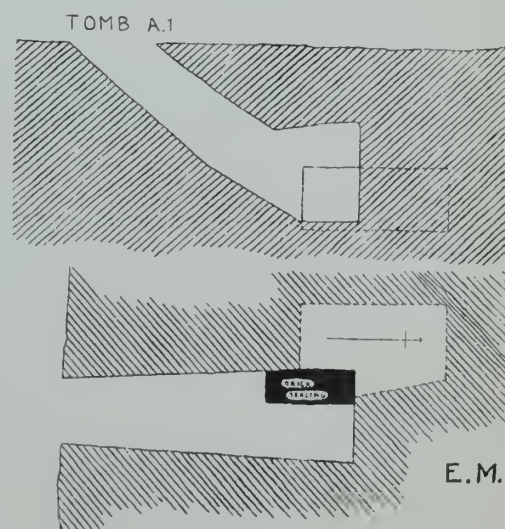
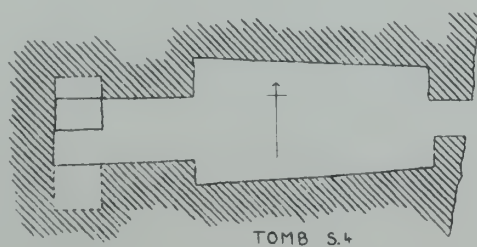
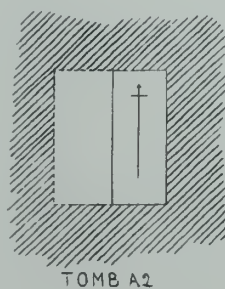
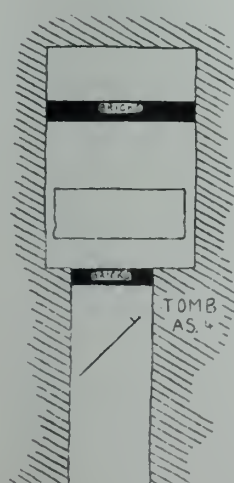
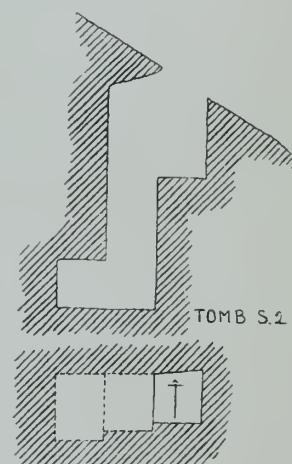
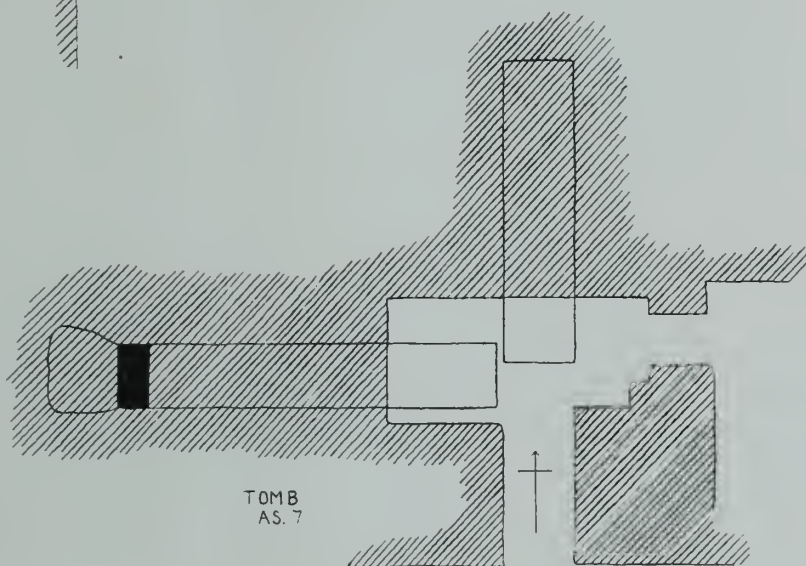
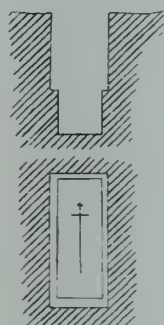
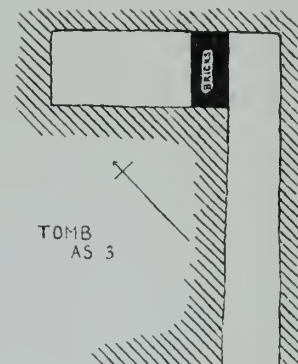
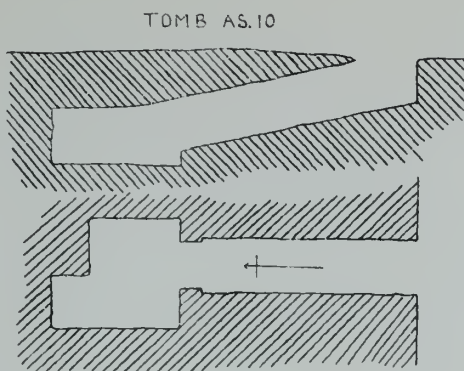
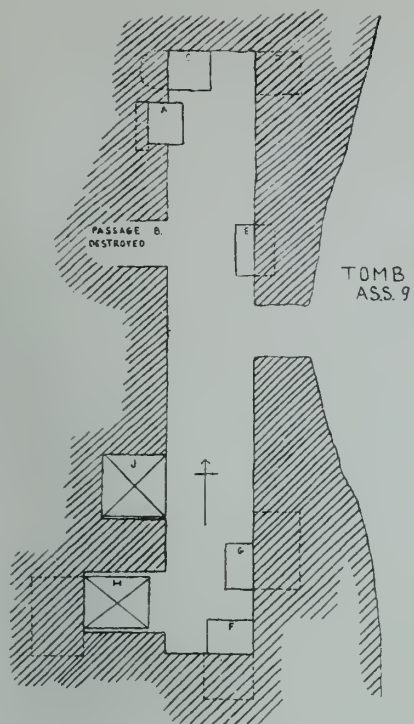


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